SmartWay 2.0

Truck Model User Guide

Updated: October 29, 2009

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Part I: WELCOME

From its inception in 2001, SmartWay has worked closely with the trucking industry to design a program that combines the environmental goals of reducing carbon (CO2), nitrogen oxide (NOX), and particulate matter (PM) emissions with the industry's goals of reducing fuel use, saving money, and improving efficiency. Thanks to efforts such as yours, SmartWay has become the highly successful program it is today. You have helped make SmartWay the global standard for transportation carbon science. I applaud all the efforts you have made to date, and I thank you for your participation in SmartWay 2.0.

- Matthew Payne, Architect of the SmartWay 2.0 System

Part II: INTRODUCTION

Welcome to the SmartWay 2.0 Truck Model User Guide.

It is ***highly recommended*** you use this User Guide the first time you fill out the new 2.0 model. This User Guide provides step-by-step instructions on how to complete the model, and provides explanations for why certain data are used. As a supplement to this manual, the model contains a Help function that provides contextual assistance onscreen. A separate Truck Model Technical Manual is also available, providing a general overview of the SmartWay 2.0 model, and detailing all data and calculations used within the model. In addition, webinar training will also be available at the SmartWay Web site at: < http://epa.gov/smartway/transport/smartway2-0.htm>.

Question: What is this model and why am I filling it out?

The SmartWay 2.0 Truck Model is part of a suite of U.S. Environmental Protection Agency (EPA) SmartWay models that collect carbon inventory and efficiency information from all freight transportation modes. As the need to reduce carbon emissions has increased, so has the demand from U.S. industry for new tools to calculate carbon inventories and efficiency metrics. To address this demand, SmartWay created the new SmartWay 2.0 system models in 2009. The data and information collected in these models can be used to optimize companies' freight transportation emissions. Since carbon is produced from fuel combustion, SmartWay's goal of reducing carbon emissions complements industry's goal of lowering fuel costs and fuel consumption.

Question: How is this model different from the previous SmartWay Carrier Freight Logistics Environmental and Energy Tracking (FLEET) model?

The previous SmartWay Carrier FLEET model rated freight transportation providers (carriers) based on their usage of a select group of technologies and operational practices that reduced CO2, NOx, and PM emissions. Carriers received credit toward their SmartWay score based on a comparison of their fleet to a hypothetical fleet that did not use these technologies or operational practices. Resulting emissions savings represented the emissions that would have been produced had the fleet not adopted the technologies and operational practices.

As such, the FLEET model quantified companies' emissions reduction efforts, but did not rate companies based on their total emissions. This method of calculation was intended to account for the diversity of trucking companies' operation. For example, SmartWay did not want to "penalize" companies that hauled steel in the Rockies versus companies hauling potato chips in Kansas. Under this scenario, using a score entirely based on a company's fuel efficiency, such as miles-per-gallon (mpg), might be unfair. For instance, the company hauling the steel in the Rockies might implement numerous strategies to improve their mpg. At the same time, the potato chip hauler might not have pursued any such strategies, but due to the inherent efficiency of their vehicle operation,

its fleet would most likely receive a higher fuel efficiency score. Thus, the FLEET model SmartWay score attempted to account for more than just static fuel efficiency rates by factoring in fuel efficiency improvement efforts themselves. In essence this approach could be summarized saying "the best you may be able to achieve in your business is 5 mpg, but if you are doing all you can to reduce your fuel consumption, you will receive a high SmartWay score."

Unfortunately, the FLEET model SmartWay score is not sufficient to determine carbon inventories for companies that employ carriers (i.e., shippers). For shippers to determine their carbon inventory or “footprint”, they must have estimates for the grams of CO2 produced per mile driven (g/mile) by their carriers. While the prior FLEET model calculated a company’s g/mile efficiency, there was no fair or easy way to compare similar modes of operation because carriers were not differentiated according to business model or operational type. Since many carriers have discreet operating units for performing specific tasks, creating an inventory on a company-level basis risks comparing fleets with highly differing compositions. Therefore, data must be collected at each company’s unit level, which allows each operational unit to be compared against similar units (e.g., flatbed to flatbed, auto carrier to auto carrier, less than truck load to less than truck load, tanker to tanker, etc.). Conversely, operating units should not be compared to dissimilar units (e.g., heavy-haul flatbed vs. truckload dry van, tanker, or any unit other than another heavy-haul flatbed). Collecting data at this detailed level allows for the production of a more accurate carbon inventory and provides a more precise, equitable basis for optimizing carrier selection. The SmartWay 2.0 model is designed specifically to meet these goals.

Part III: GETTING STARTED

1. Software and Hardware Requirements

The model is designed in Microsoft Excel forms and requires the following:

- A 2003 or later version of Microsoft Excel
- Excel security level set at Medium
- A PC running Windows XP or above is required. The model does not currently support the Mac OS.
- The SmartWay 2.0 Truck Model requires a minimum of 5 megabytes of free disk space. More disk space may be required based on the number of fleets you define in your model.
- The SmartWay 2.0 Truck Model uses Excel as its underlying technology. Your PC should have adequate memory (RAM) to run Office.
- The SmartWay 2.0 Truck Model was designed for a monitor resolution of at least 1024 x 768. [1]

1.1. Partner Information

- Company Information
  - Company Name, Address, City, State, ZIP, Country
  - Main Phone, Web site
- Primary, Executive, and Other Contact Information
  - Name, Title
  - Address, City, State, ZIP, Country
  - Phone, E-mail

1.2. Operator and Fleet Characterization Information

- Company Name, Company Division Names, Contacts
- Standard Carrier Alpha Codes (SCACs) and/or Motor Carrier numbers
- Division-level[2] Fleet Type
- Division-level Operational Category (by percent of operation)
  - Truckload, Less-than-truckload, Dray, Pickup Delivery, Expedited
- Division-level Body Type (by percent of equipment)
  - Dry Van, Reefer, Flatbed, Bulk, Tanker, Auto, Heavy Haul, Pooled Intermodal, Owned Intermodal

1.3. Emissions Profile (fleet level)

- Long- versus short-haul split (%)
- Owned, Leased, Operated under subcontract (%)
- Fuel Usage (total and by class) for each of the following fuel types:

[1] The model will also work at 800 x 600 resolution, but many of the screens will appear with scroll bars.
[2] For companies with only one “Division”, corresponding inputs are at the company level.

    - Diesel/Biodiesel, Gasoline/Ethanol, Propane (LPG), Liquefied Natural Gas (LNG), Compressed Natural Gas (CNG)
- Number of trucks by model year and class (2b-8b)
- Total, Revenue, and Empty miles driven (total and by class)
- Average payload, average capacity volume, and % cube utilization (by class)
- % of urban operation (by class)
- Average urban speed (by class)
- Average highway speed (by class)
- Average idle hours per truck (total and by class)
- Use of any Particulate Matter (PM) control equipment:
    - Diesel Oxidation Catalyst (DOC)
    - Closed Crankcase Ventilation (CCV)
    - Particulate Matter Filter (PM Trap)

2. Model Organization

The following chart displays the structure of the model screens. You should read the Introduction and Partnership Agreement screens and then proceed to the Home page. From the Home page, you will:

1.) Fill out company and contact information
2.) Characterize your fleet(s) and create model(s)
3.) Enter the required data for each fleet
4.) View results
5.) Submit model(s) to EPA

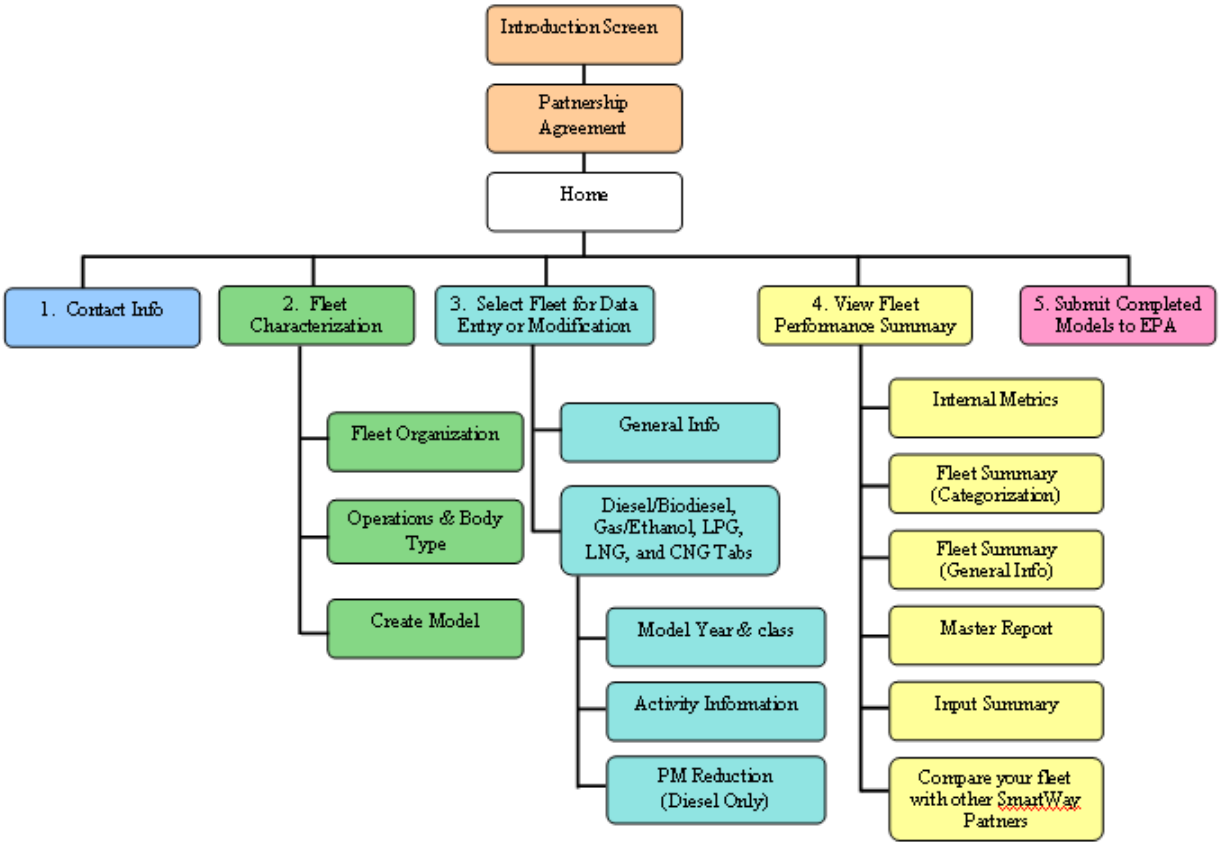


Figure 1. Model Architecture

After steps 1 and 2 above, the system will automatically save backup copies of your file. Also, at any stage of the process above, you can save the data you have entered by clicking the "Save Progress" button on the home page.

Part IV: RUNNING THE MODEL

1. Before you begin

The model can be downloaded from the SmartWay Web site at: <http://epa.gov/smartway/transport/smartway2-0.htm>

Before you begin, be sure to set your Excel security setting level to "Medium." When using Excel 2003, on the menu bar, go to Tools → Macro →Security Level. When that window opens, click Medium. See **Figure 2** and **Figure 3** for details.

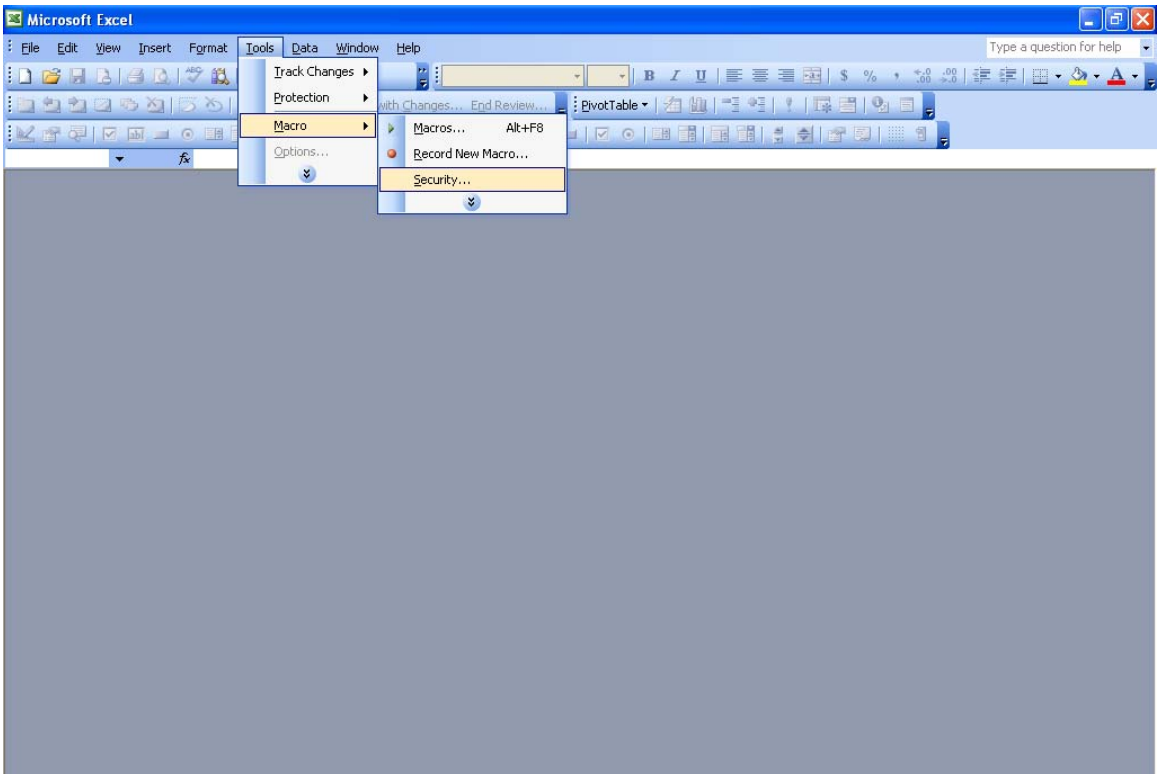


Figure 2. Macro Drop-Down Menu

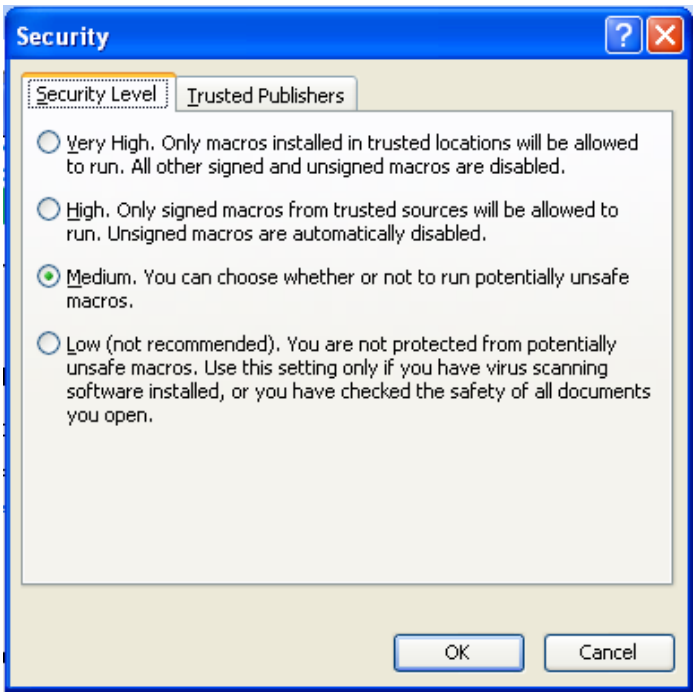


Figure 3. Security Dialog Box

You may then proceed to running the model by:

1.) Saving the model to your computer.
2.) Double-clicking on the file to open the model. You will see a security warning box appear (**Figure 4**).

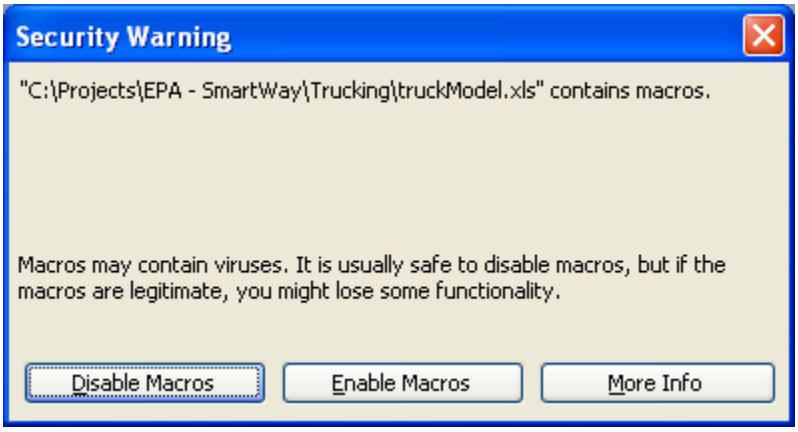


Figure 4. Security Warning Box

3.) Click on the Enable Macros button in the security warning box. The following screen (**Figure 5**) should appear:

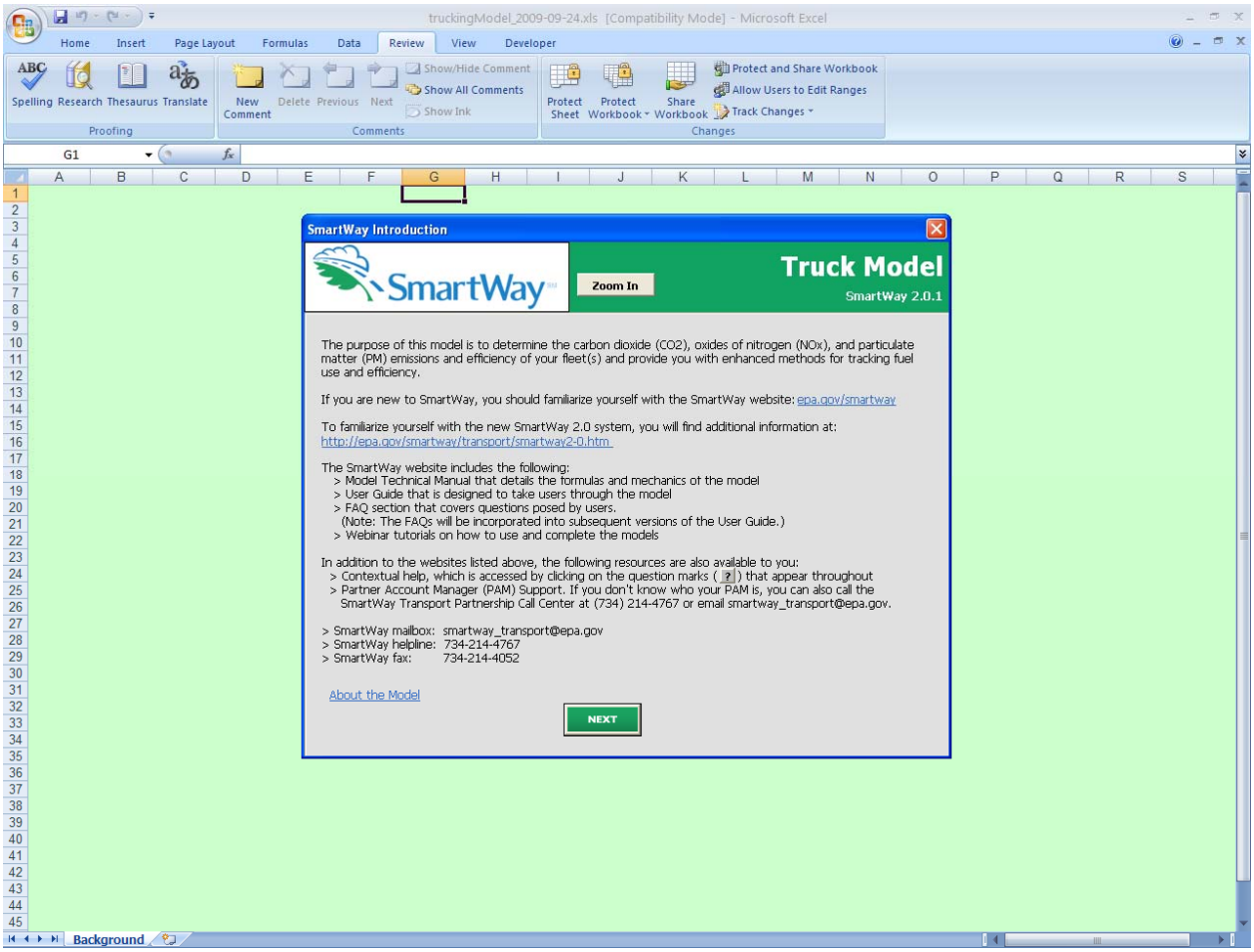


Figure 5. Truck Model Welcome Screen

The part of the model that you fill out resides in the gray, blue, and dark green forms. The Excel workbook that remains in the background – and which normally appears as a light green screen in **Figure 5** – is where all of the data you enter is actually stored. However, for the purpose of your data entry, you can disregard the background workbook.

If the model does not open, please review the Software and Hardware Requirements on Page 6 of this guide.

2. SmartWay Introduction

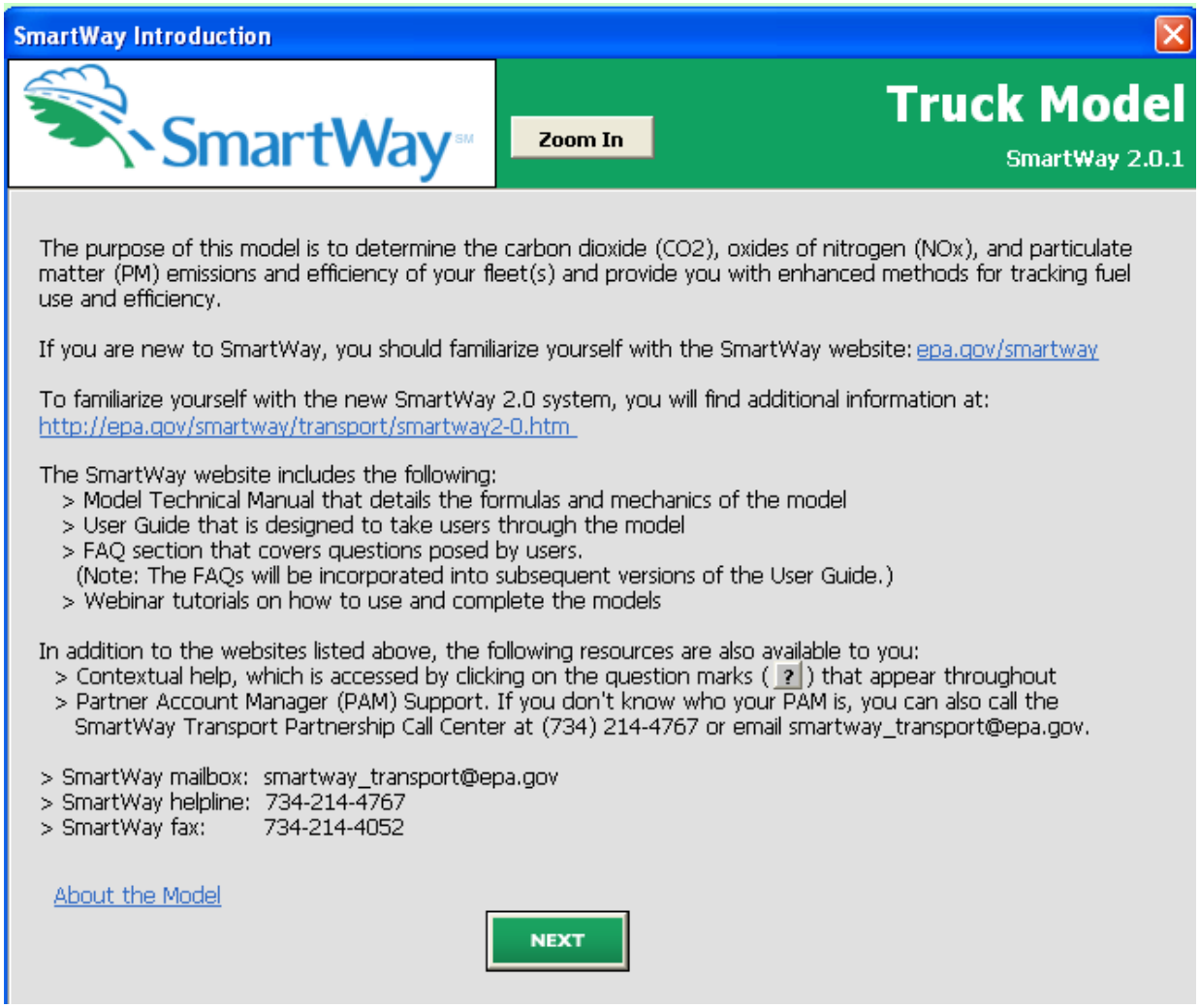


Figure 6. SmartWay Introduction Screen

The SmartWay Introduction Screen is the first window that appears when the model is opened in Excel, as shown in **Figure 6**. This screen contains links to the SmartWay Web site where you can view and download additional information.

General SmartWay information:	www.epa.gov/smartway
SmartWay 2.0 information:	http://epa.gov/smartway/transport/smartway2-0.htm

There is also a link labeled **About the Model**. If you click on this link, you will be taken to the **About the Model** screen described below.

Note: The name of the screen appears at the top left-hand corner of the model, in white font on the blue window bar.

To proceed to the **SmartWay Partner Agreement** Screen (**Figure 8**), click **NEXT**.

2.1. About the Model

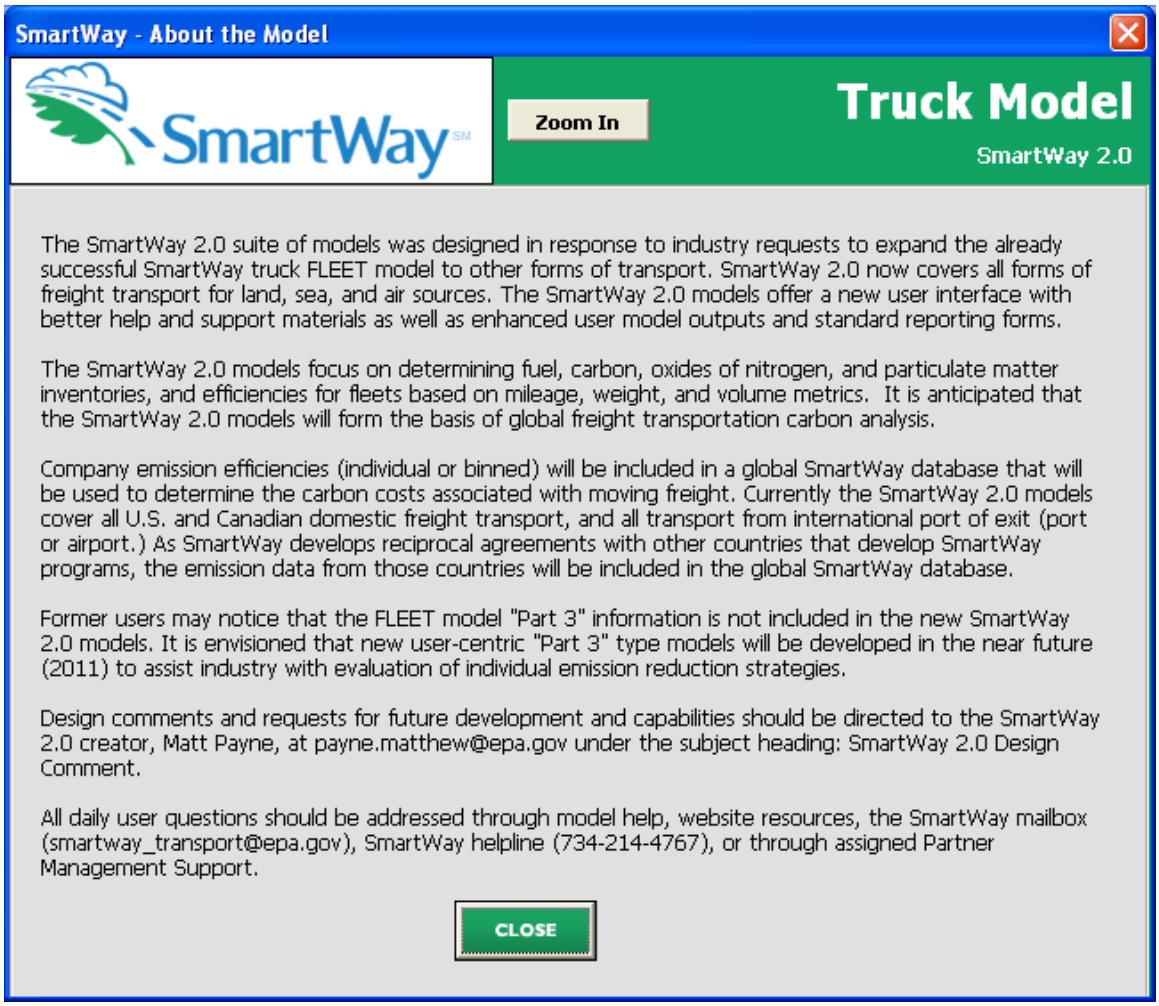


Figure 7. About the Model Screen

If you click on the **About the Model** link, the above screen will appear. It includes basic background information and provides a link for submitting comments regarding the design of the model. If you have comments or suggestions about the model design, please send an e-mail to: <payne.matthew@epa.gov>. Please use the subject heading "SmartWay 2.0 Carrier Model Design."

The above email link should be used only for comments that pertain specifically to design of the model. Questions about problems you encountered, error messages, or other non-design-related questions will not be supported or referred from this link. "How

to" and standard user requests should be directed to the SmartWay Helpline at (734) 214 4767 or your assigned Partner Account Manager (PAM).

To navigate back to the **SmartWay Introduction** screen (**Figure 6**) from the **About the Model** screen, click the **CLOSE** button.

2.2. SmartWay Partner Agreement

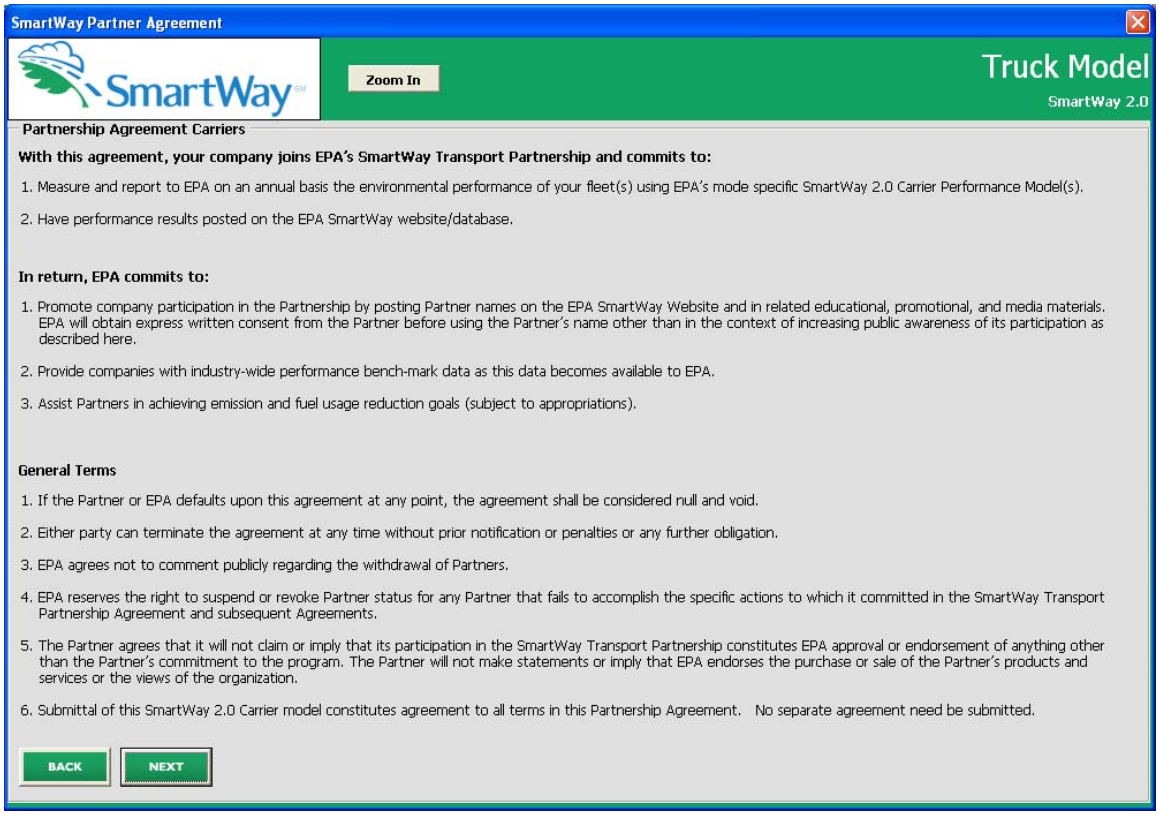


Figure 8. SmartWay Partner Agreement

After clicking the Next button on the Introduction Screen, the SmartWay Partner Agreement should appear. You must agree to this language to join the SmartWay Transport Partnership. Separate signed hard-copy versions are no longer required. Submitting a SmartWay 2.0 Carrier Model to EPA constitutes agreement to all terms in the Partnership Agreement. Because models are due on an annual basis, the partnership agreement will be renewed automatically each year. Partner listing on the EPA Web site and in the SmartWay global partner database will be based on annual partnership and model submission. If an agreement/model is not submitted per SmartWay requirements, the partner will automatically be removed from the list.

Historical Note: In the past, SmartWay supported a lengthy warning process for partners that were delinquent submitting their partnership materials; however, due to the large number of partners currently joining and submitting materials to SmartWay, this level of customized service can no longer be supported.

To move to the next screen from the **SmartWay Partner Agreement** screen, click the **NEXT** button.

3. Home Screen

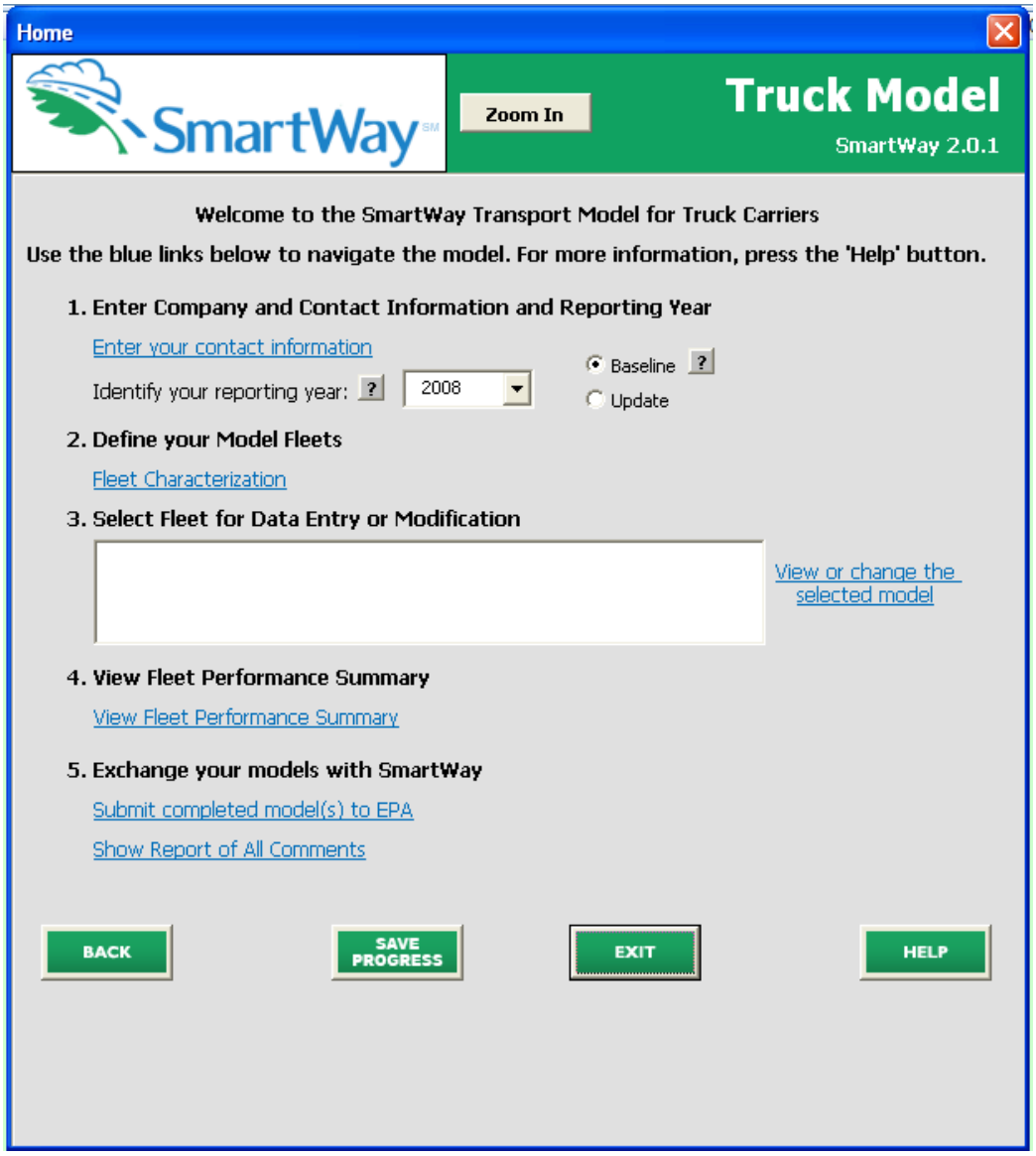


Figure 9. Main Model Navigation or "Home" Screen

Figure 9 shows the main model navigation screen, or **Home** Screen. From here you can access to all components of the model. To move to a specific model screen, click the corresponding **blue link**, or simply navigate using the **BACK** and **NEXT** buttons when present. Throughout the data input process, you will be able to click the **HELP** button if you need additional guidance. You will also notice small gray icons with question marks [**?**] displayed throughout the model. When clicked, these icons provide additional information about specific items located on the screen.

There are five main links located on the **Home** screen. Click on the link to proceed to the corresponding screen. These five links are to be completed in order, and comprise all the steps needed to complete your SmartWay Truck Model:

1. **Enter your contact Information**: This screen will ask for general company contact information, a primary SmartWay point of contact, and an executive-level contact. Additional contacts may also be included.
2. **Fleet Characterization**: On this screen, you will define all the of fleets your company operates and provide information describing the operation of those fleets. Once these parameters are defined, the software will automatically generate separate models for each fleet.
3. **View or change the selected model**: This screen will ask for the performance and fleet composition information necessary to calculate efficiency metrics for your fleet(s).
4. **View Performance Summary**: This screen will give you multiple options for viewing your performance data and can generate multiple reports for you.
5. **Submit completed model(s) to EPA:** Send the model as an Excel attachment in an e-mail to your Partner Account Manager (PAM). Pressing the OK button does not automatically submit the model to EPA. Note: In the future this screen will automatically send your SmartWay submission to the SmartWay team via e-mail.

Before you submit your completed model(s) to EPA, below, you must save your model to your desktop, hard drive, or some other location that you can easily locate. Otherwise, you may not find your data-filled model and may need to re-create a new model!

In addition, a sixth link on the Home screen, **Show Report of All Comments**, allows you to review any notes and comments made during the compilation of the different data inputs throughout the model. These comments can provide a useful reference for documenting data sources and assumptions, as well as for preparation of subsequent year submittals. In addition, you can use this link to view questions and comments from your Partner Account Manager after they receive and return your models.

3.1. Company and Contact Information and Reporting Year

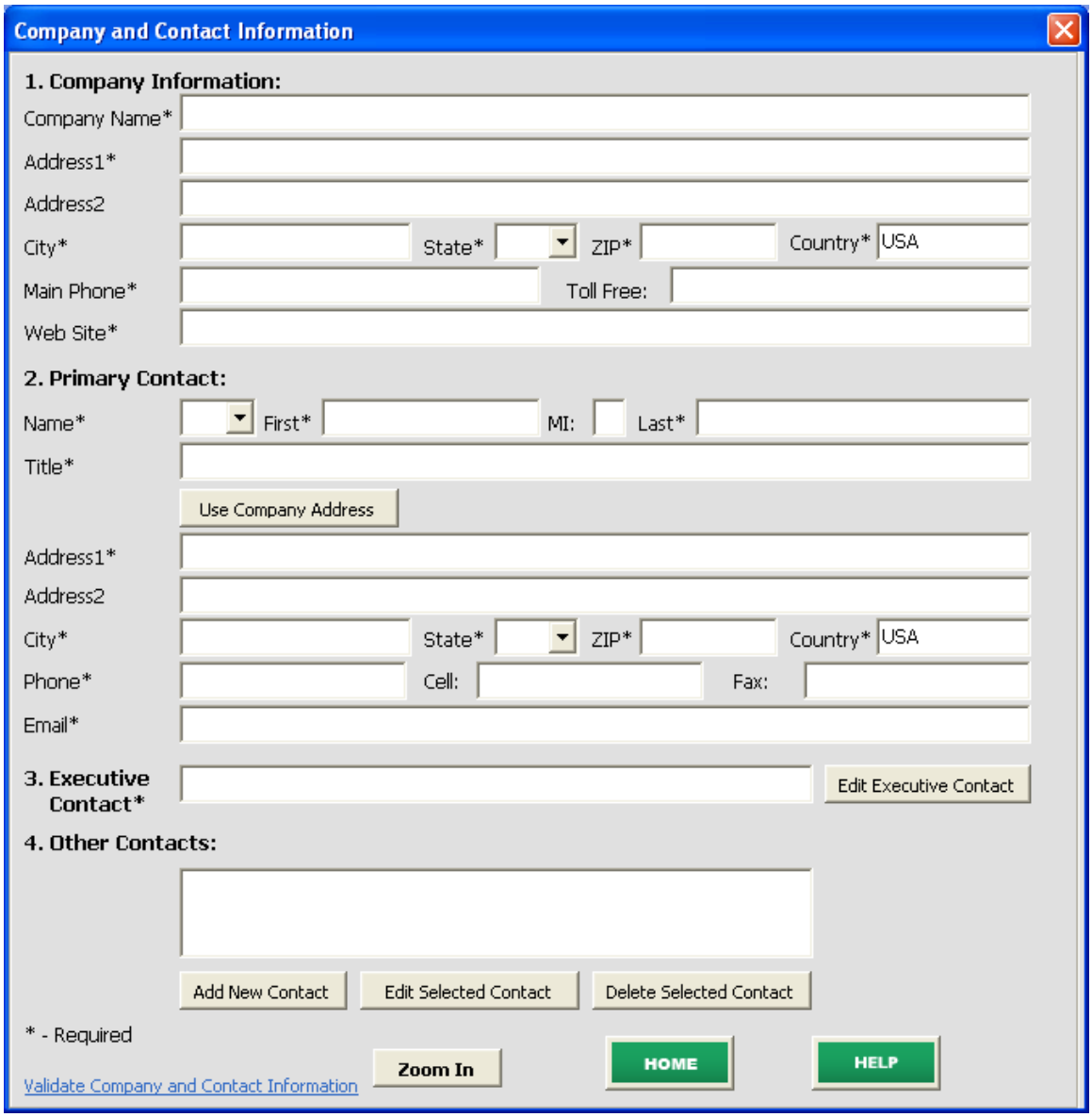


Figure 10. Company and Contact Information

For this form, you will need to fill out the following information:

- Company Information
- Primary Contact information
- Executive Contact (Vice President or higher)

Each field marked with an asterisk must be filled out. You will not be able to submit the model to SmartWay without this information. Simply fill out the required data for the

Company and Primary Contact fields. To fill out the Executive Information, click the Edit Executive Contact button to the right and enter the required data.

To add a contact to the Other Contacts box, click the **Add New Contact** button. A new contact field will appear, labeled **Additional Contact Information** (not pictured). Fill this out and click **CLOSE** when done. You can add more names to the Other Contacts box by repeating this process. If you wish to edit an existing contact's information, highlight the name you wish to edit and then click the **Edit Selected Contact** button. You can remove an existing contact by highlighting the contact and then clicking **Delete Selected Contact**.

Sometimes companies with multiple business units will gather information from different sources within the company. You might find it useful to have this information stored within the model.

To make sure you have filled out all required information, you can click **Validate Company and Contact Information** (see **Figure 10**). This will perform a check to see if all necessary information has been submitted. If any information is missing, a dialogue box will appear informing you what additional information is required.

If you encounter validation errors or any problems involving model operation that you cannot resolve, please take a screen shot of the form in question and email your Partner Account Manager for assistance.

Click **HOME** to return to the **Home** Screen (**Figure 9**).

Back on the **Home** Screen, identify your reporting year using the drop-down menu. This should be for the last year for which you have full annual (12 months) data. In addition, if this is the first year you are submitting your data using SmartWay 2.0, select "Baseline"; otherwise select "Update".

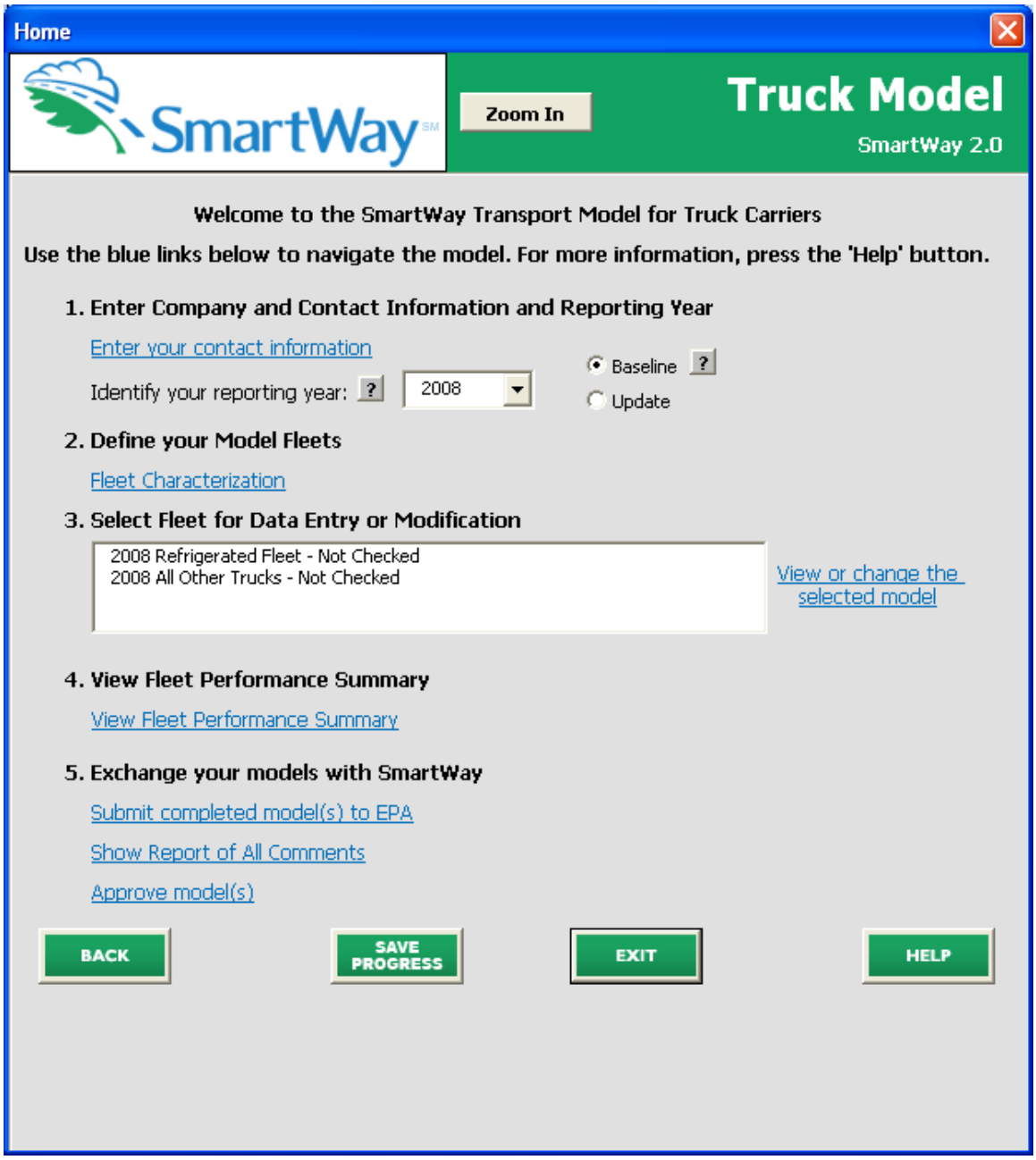


Figure 11. Home Screen with Partially Completed Models

You have completed the first step. The system will now automatically save your model as well as a backup copy, which will be given a suffix of “Phase1” to indicate that it was saved after the completion of step 1 of the process.

Next, click **Fleet Characterization** to display the **Fleet Characterization** Screen.

3.2. Define your Model Fleets

3.2.1. Fleet Characterization: Fleet Organization

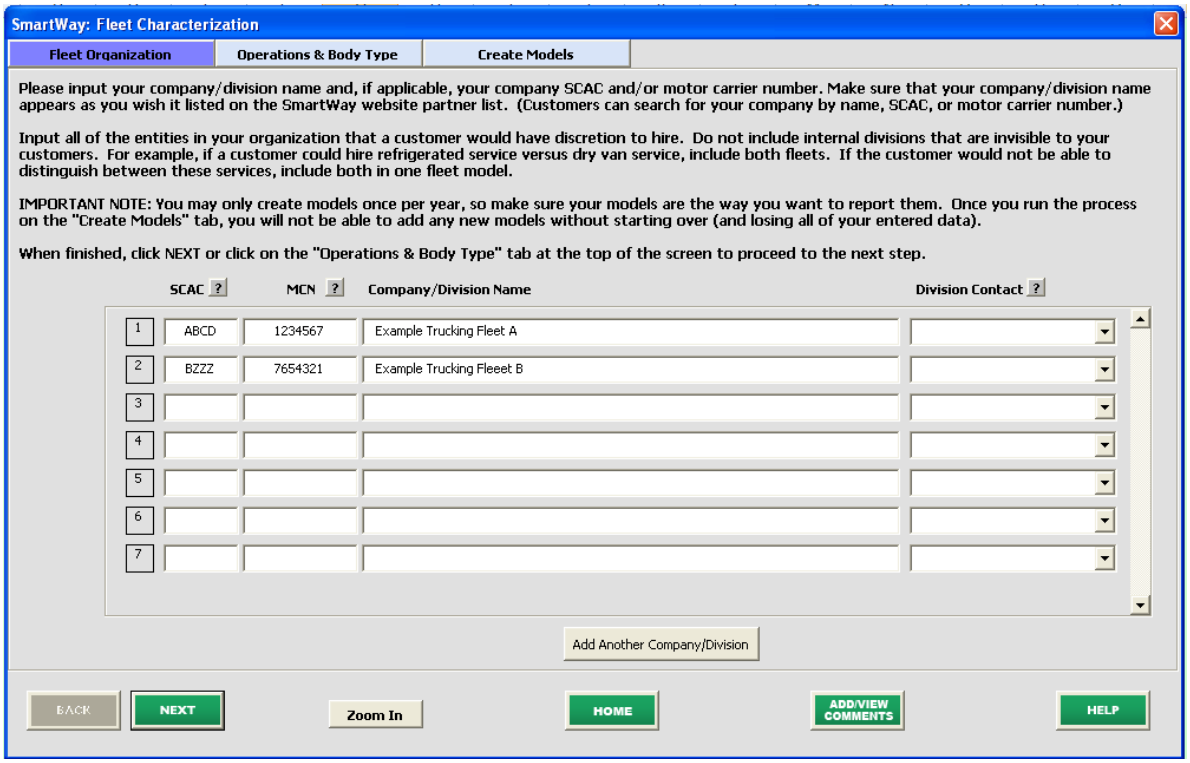


Figure 12. Fleet Characterization Screen - Fleet Organization Tab

This screen allows you to define the various components of your fleet(s). If you are an owner-operator with one truck you will only have one fleet. If you are a large national trucking company, you may have several fleets. In this model, a fleet is defined as any business unit that a customer has discretion to hire. For example, if your customers can hire your truckload dry van fleet separately from your flatbed fleet, you will need to create separate models for each fleet.

To familiarize yourself with the **Fleet Characterization** Screen (**Figure 12**), browse the first two tabs at the top of the screen labeled Fleet Organization and Operations & Body Type. Note that you cannot open the third tab (**Create Models**) until the other two tabs are complete.

Think about this information ahead of time! How do your customers hire your fleet(s)? How many divisions do you have within your company? How are your divisions/customer choices identified? Are they identified by specific SCACs or Motor Carrier number? SmartWay highly recommends developing your list of fleets offline by using a company organization chart or perhaps a customer interface Web page. The best strategy is to have a clear idea of how to set up your fleets before filling out the model.

Background: The SmartWay 2.0 carrier models will calculate emission performance for each fleet based on the specific information associated with that fleet. By properly characterizing your fleet, you will ensure that it is compared against other fleets in the same category. For example, it would be unfair and misleading to compare for-hire truckload heavy-haul fleets against private truckload expedited fleets. Proper characterization of your fleet(s) makes sure that "apples are compared to apples" and is vital to the functionality of the SmartWay system. You should therefore try to characterize your fleets as discretely as possible.

Once you have created your models (Part IV:3.2.3 on Page 24) you cannot add or delete any fleets until the next reporting year. However, you will be able to go back and change the specific information about your fleets.

When you are ready, make sure you are on the **Fleet Organization Tab**.

Enter the Company/Division name. If it has a SCAC code and/or a Motor Carrier number, please input that information. While it is not required to enter SCAC or MC information for each fleet, it will help shippers searching by those parameters in the SmartWay database to easily find your fleet for inclusion in their Shipper Model.

Next, enter division contact(s). Use the drop-down menu to bring up the list of contacts you entered in the **Company and Contacts** Screen (Section 3.1), and select one. If there is a contact for the division that is not already listed in the **Company and Contacts** screen, you will need to go back to that screen to add the contact.

If you need to add a row for an additional Company/Division, click the **Add Another Company/Division** button. An additional row will appear. If necessary, use the vertical scroll bar to see all your fleets.

Please note the **ADD/VIEW COMMENTS** button located at the bottom of the screen. This allows you to enter notes about the collection process, your thoughts, data, or other information you would like stored along with your model. This record could prove useful when you or someone else fills out the model next year.

A **HELP** button is also available should you need assistance.

To proceed, click the *Operations & Body Type* tab at the top, or simply click the **NEXT** button. Clicking **HOME** will take you back to the **Home** screen.

3.2.2. Fleet Characterization: Operations & Body Type Tab

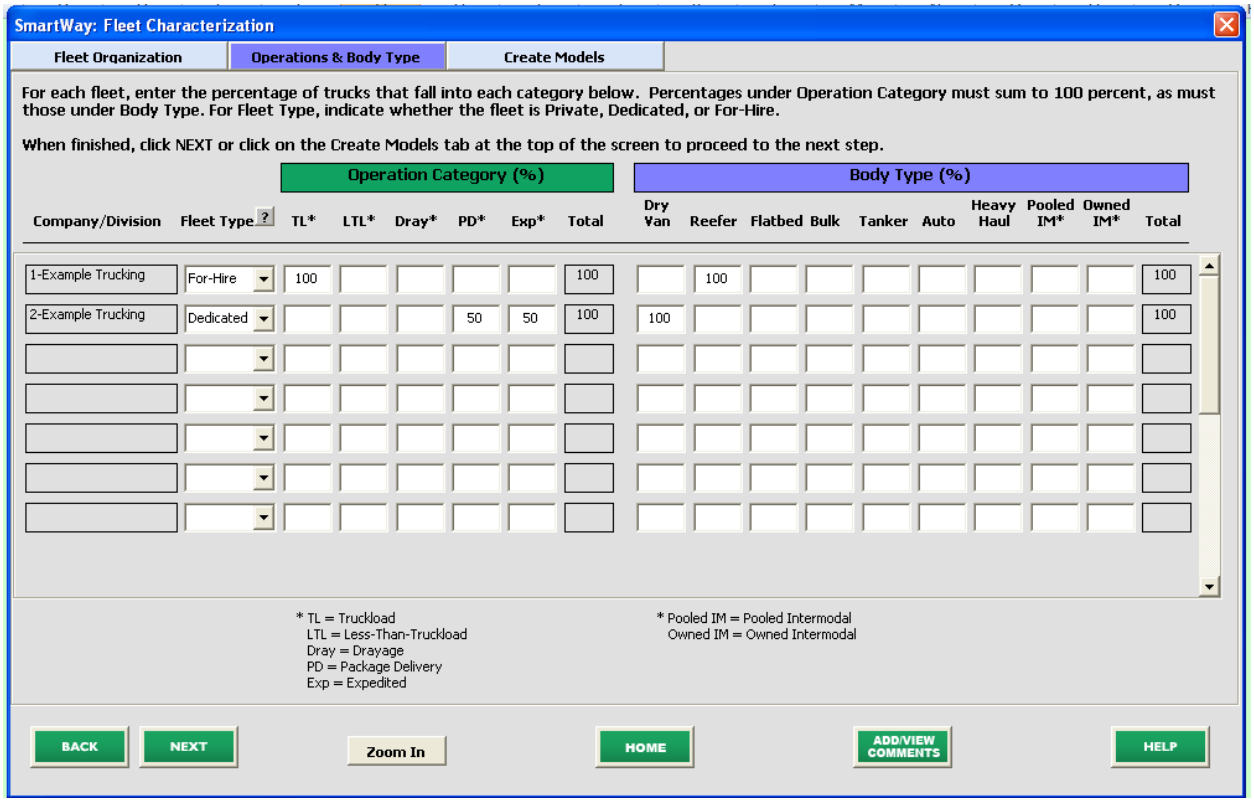


Figure 13. Fleet Characterization Screen - Operations & Body Type Tab

After you have filled out **the Fleet Organization** tab, you will see all of your fleets listed on the **Operations & Body Type** tab. This tab allows you to categorize your fleets. As you can see, there are multiple ways to define a fleet. You must define a fleet as one of three fleet types:

- Private
- Dedicated
- For-Hire

For each fleet, use the **Fleet Type** drop-down in the second column to select the appropriate fleet type.

Remember to create separate models for each fleet your customers have discretion to hire.

Example: You have a for-hire fleet, but you maintain specific contracts with a company, making part of your fleet essentially dedicated. As such, you can delineate the mileage and fuel use for the for-hire portion of your fleet, as well as the dedicated portion. According to your records, the dedicated fleet accounts for 30% of your total mileage. Therefore you should construct a fleet model for your for-hire fleet, and label it as such. You should then create a separate model for your dedicated fleet and label it accordingly.

Next, for each fleet fill out the **Operation Category (%)** information by indicating the percentage of operation on a mileage basis. Operational categories include:

- Truckload (TL)
- Less-than-truckload (LTL)
- Drayage (Dray)
- Pickup/delivery (PD)
- Expedited (Exp)

Enter the percent of each operational type based on approximate mileage. This percentage calculation does not need to be exact but should be reasonably reflective of your fleet. Again, define your fleets based on the ability of your customers to choose them. If customers can choose to hire your TL fleet, or your LTL fleet, or your dray fleet, then create separate models for each fleet. The percentages for each fleet must sum to 100%.

Next, fill out the **Body Type** fields, indicating the percentage by body type for each fleet. Body Type categories include:

- Dry van
- Refrigerated (Reefer)
- Flatbed
- Bulk/dry
- Tanker
- Auto carrier
- Heavy haul
- Pooled Intermodal (IM) chassis
- Owned Intermodal (IM) chassis

The percentages specified can be approximate, based on mileage. These percentages do not need to be exact but should be reasonably reflective of your fleet. Again, define your fleets based on the ability of your customers to choose them. If customers can choose to hire your dry van fleet, or your reefer fleet, or your flatbed fleet, then create separate model runs for each fleet. The percentages for each fleet must sum to 100%.

As on the other tabs there is a **HELP** button as well as an **ADD/VIEW COMMENTS** button. Clicking **HOME** will take you back to the **Home** screen.

Once you are sure your information is input correctly, click **NEXT** or click on the **Create Models** tab at the top. A new screen will appear that will prompt you to click a reminder box to proceed. You will also see an area to name each of your models.

3.2.3. Fleet Characterization: Create Models Tab

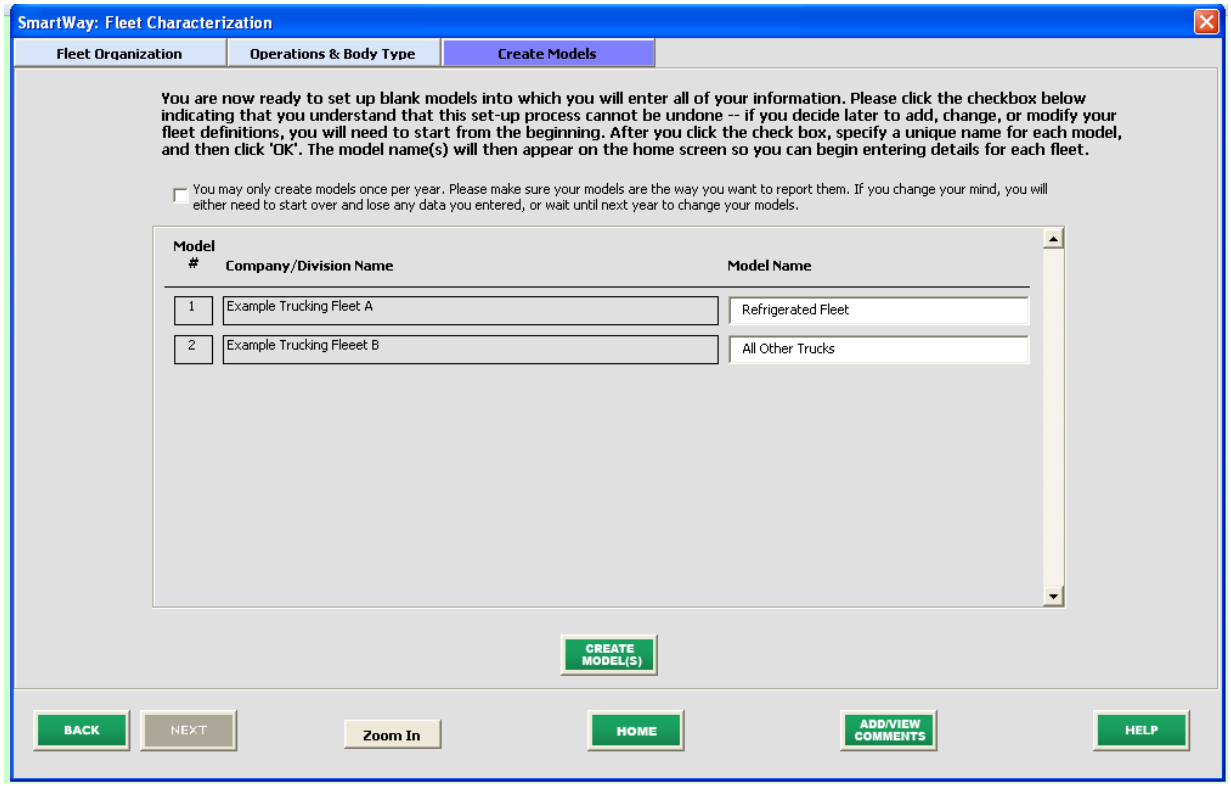


Figure 14. Fleet Characterization Screen - Create Models Tab

The **Create Models** tab allows you to create the model shells that you populate with your data later. This step is irreversible. Make certain that you have specified all of your fleets, since you will not be able to add any new fleets once the model shells have been created.

After naming each model, click the check-box near the top left of the screen if you are ready to proceed. You may then click the **CREATE MODEL(S)** button.

Prior to generating the model shells, the system will automatically save your data and also create a backup copy of your file that contains a suffix of “Phase2”. If you end up needing to add a fleet later on, you can return to this backup copy. However, this backup will not contain any information you enter beyond this point, but it will contain everything you’ve entered thus far in the process. Saving files after this point will create a backup copy with the suffix “Phase3”.

Point Of No Return: Once you click CREATE MODEL(S) the software will create model shells (empty models) for you to complete. At this point, you will not be able to add any new fleets, so make sure all your fleets are included before clicking the CREATE MODEL(S) button!

A message indicating that you have successfully created your models for the reporting year will appear. Click OK to proceed. You will then be returned to the **Home** screen.

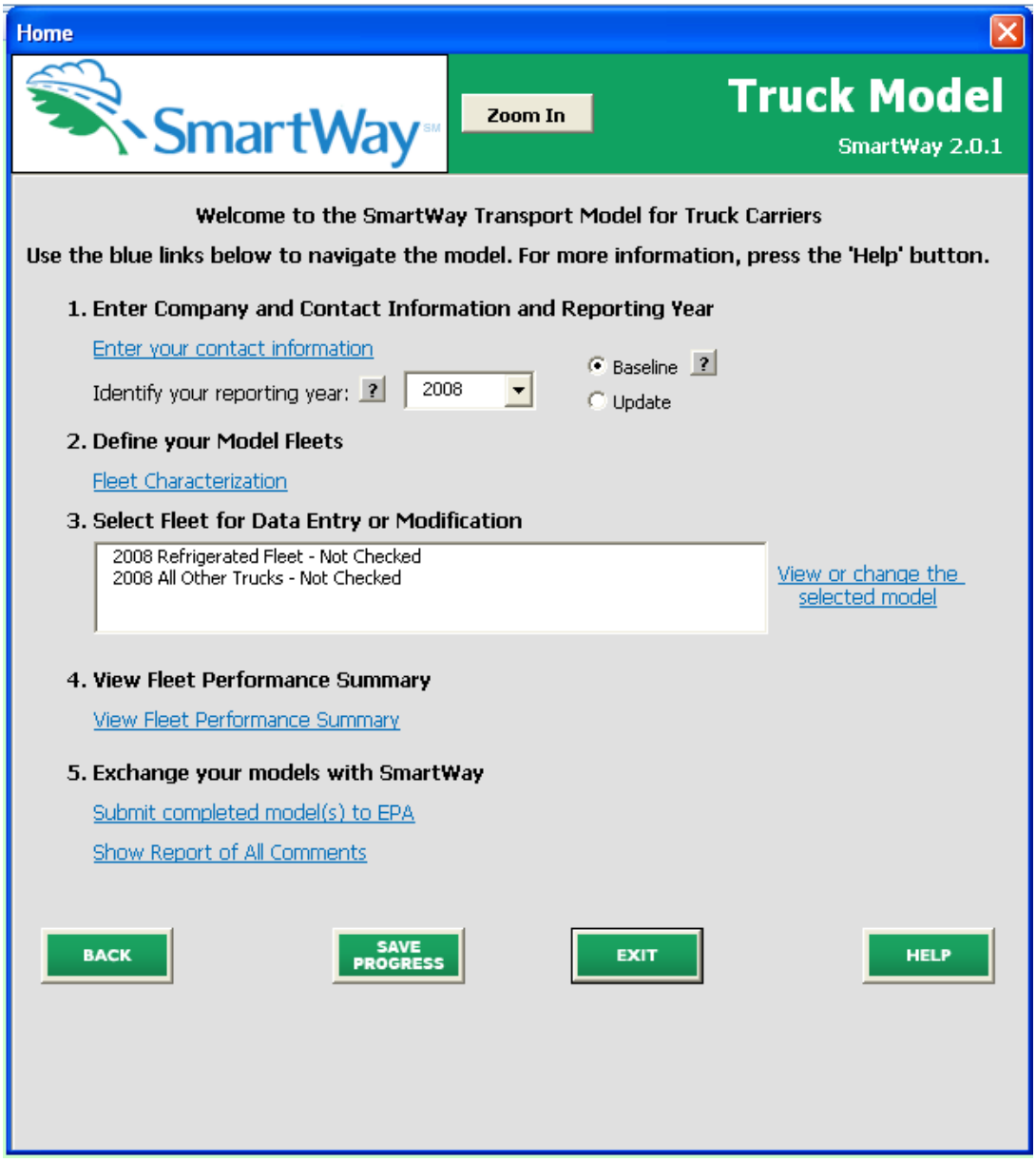


Figure 15. Home Screen - after completing Fleet Characterization process

On the **Home** screen, you will now see all the model shells you created listed in the window below item # 3: **Select Fleet for Data Entry or Modification**. There will be a status message after each model name. This indicates whether or not your model is complete. The following information may appear beside a model name:

- Incomplete: This indicates that some data is still missing and/or inconsistent.
- Not checked: This indicates that validation of the data for error checking has not been conducted.

- Complete: This indicates that all data requirements have been met and validation has occurred.

To add data to a particular model, highlight the model name and then click **View or change the selected model**, or simply double-click on the name of the model. You will proceed to the **Model Data Entry Page**. You will start on the **General Info** tab.

3.3. Data Entry or Modification

3.3.1. Data Entry: General Info Tab

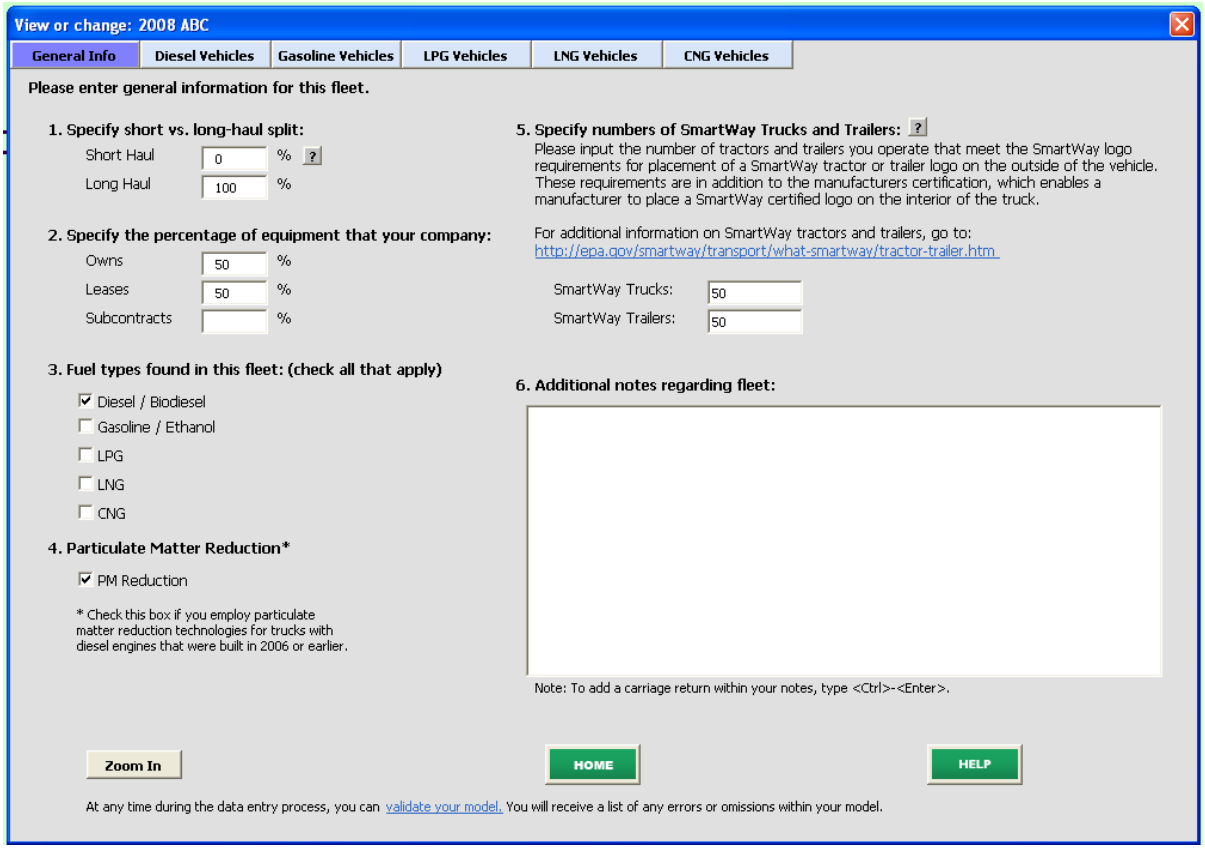


Figure 16. Model Data Entry Screen - General Info Tab

1. **Specify your long-haul vs. short-haul split**: Specify by using percentages. Inputting a value in one cell automatically populates the other cell to add up to 100. Long haul is defined as any haul in excess of 200 miles.
2. **Specify the percentage of equipment that your company Owns/Leases/Subcontracts**: Specify your level of control over equipment by supplying the percentage of your fleet that your company owns, leases, or subcontracts (routing under your control).
3. **Fuel types found in this fleet**: Check the boxes of fuel types you use. Once you check these boxes, the appropriate fuel type tab (along the top of the screen next

to the General Info tab) will become active. If you click the Diesel/Biodiesel box, the grayed-out Part 4: Particulate Matter Reduction section will become active.

4. **Particulate Matter Reduction**: Check this box only if you have truck engines that are 2006 model year or earlier and are equipped with diesel retrofit particulate matter control devices (e.g., oxidation catalysts, particulate filters, or closed crankcase ventilation). Later in the model you will be able to provide information to calculate the PM reduction associated with these technologies.
5. **Specify number of SmartWay Trucks and Trailers**: Please input the number of SmartWay tractors and trailers you operate in your fleet. Only input the number of tractor or trailers for which you are authorized to place a logo on the outside of the vehicle. For additional information on SmartWay tractors and trailers, go to: http://epa.gov/smartway/transport/what-smartway/tractor-trailer.htm.
6. **Additional notes regarding fleet**: This box allows you to record additional information regarding this fleet. Storing information about the sources of data or methodologies will be useful here, especially for next year's update.

You can click on **validate your model** to make sure you have filled out everything on this tab properly. Any data entry gaps or inconsistencies will be identified by the software. However, note that you will receive additional validation errors unless you have completed data entry for all screens.

Click **HOME** or click on the **Diesel Vehicles** tab to proceed to the next step.

3.3.2. Data Entry: Diesel Vehicles Tab

3.3.2.a. Model Year & Class Sub-tab

Under each fuel-type tab (Diesel, Gasoline, LPG, LNG, CNG), there are two sub-tabs with data you must provide: the **Model Year & Class** sub-tab, and the **Activity Information** sub-tab. A third sub-tab, **PM Reduction**, will appear if you checked the Particulate Matter Reduction box on the previous screen.

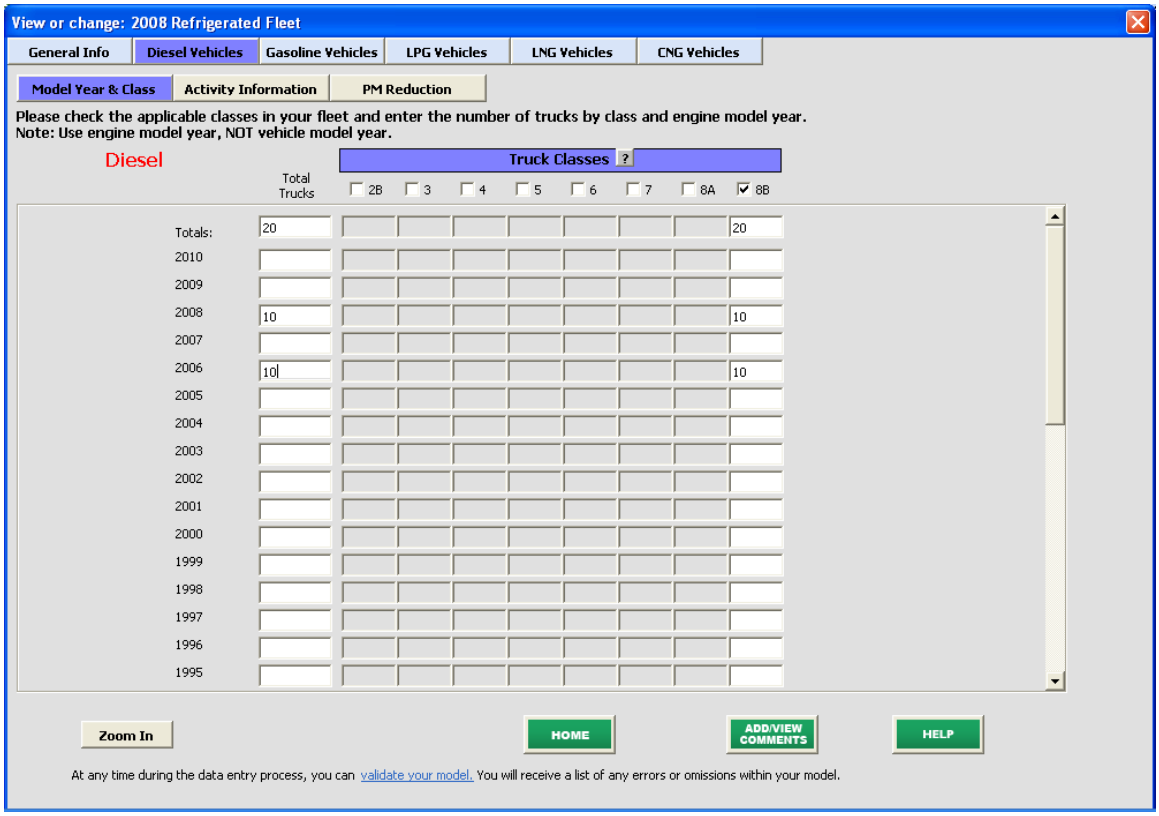


Figure 17. Data Entry Screen - Diesel Vehicles Tab / Model Year & Class Sub-tab

Start by clicking the boxes at the top for each of the Truck Classes you operate in this fleet (i.e., 2B, 3, 4, 5, 6, 7, 8A, 8B). When a Truck Class box has been checked the data column will activate. Input the number of vehicles you have by class and model year and confirm the totals add up.

> Tip: If you have only one class of vehicle, be sure to check the Truck Class box first. Inputting your data in the "Total" column will automatically copy over to the truck class column.

Notice that you can click on the **validate your model** link on this page as well. The software will make sure you have filled out everything properly on this tab. However, note that you will receive additional validation errors unless you have completed data entry for all screens.

An example validation check results screen is provided in **Figure 18**. In this case two data entry errors were identified for correction. The **blue links** at the bottom provide additional information for updating data.

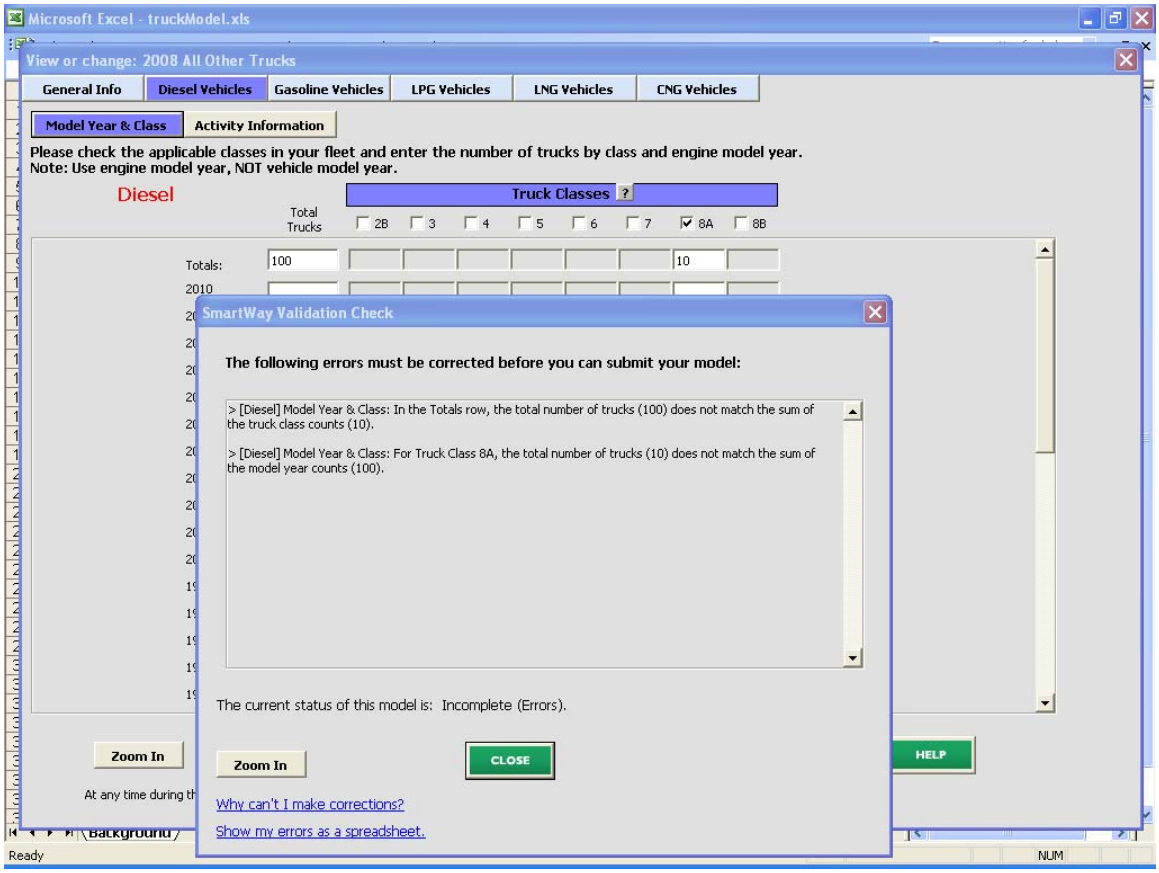


Figure 18. Validation Check – Example Results Screen

There is also an **ADD/VIEW COMMENTS** and a **HELP** button at the bottom of the page. Click **HOME** or simply click on the **Activity Information** sub-tab at top to proceed to the next section.

3.3.2.b. Activity Information Sub-Tab

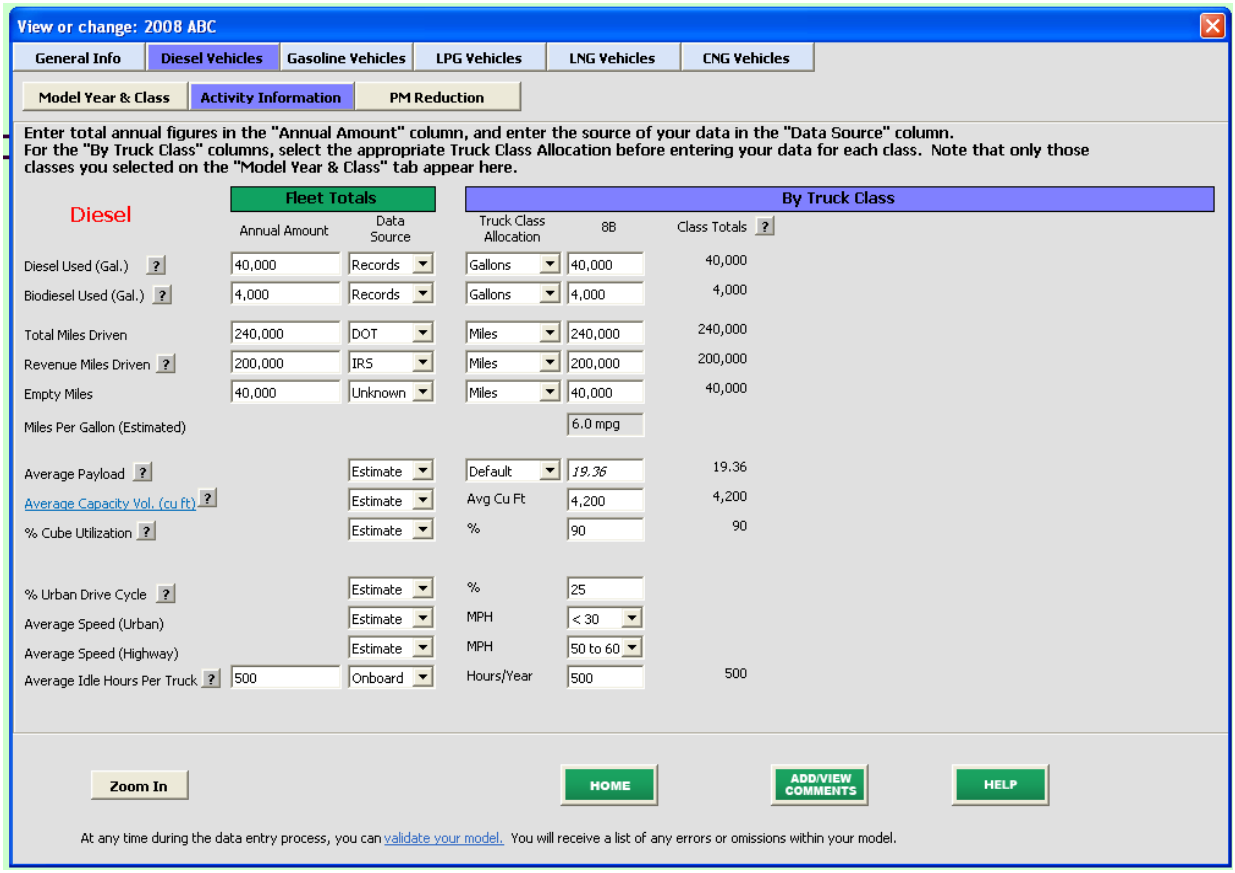


Figure 19. Data Entry Screen - Diesel Vehicles Tab / Activity Information Sub-tab

The fuel type written in ***red text*** at the top left-hand corner of this input page indicates the fuel type for which you are entering data. Enter data for each fuel type you use within your fleet under separate tabs:

- Diesel and Biodiesel are entered under the same tab.
- Gasoline and ethanol are entered under the same tab.
- LPG, LNG, and CNG are each entered under separate tabs.

If you specified on the General Info tab (**Figure 16**) that you operate vehicles of more than one fuel type, then you will need to input data on the next fuel type tab. For instance, if you operate gasoline vehicles click on that **Gasoline Vehicles** tab on the main tab bar to enter your data.

Alert! Pay careful attention that you input data under the appropriate fuel tab!

Under each fuel type tab's **Activity Information** sub-tab, you will see two main sections to input data: a green **Fleet Totals** section and a blue **By Truck Class** section. You must input annual data for your total fleet, and for each truck class, as appropriate.

For each of the Fleet Totals “Annual Amounts,” you will see a drop-down menu labeled "Data Source." Using the drop-down menu, identify the source of your data, including if it is also being submitted to other Federal agencies. EPA is collecting this information about data sources as a way of validating data and defending the accuracy of data inputs.

The six data sources include:

- As reported to the Internal Revenue Service (IRS)
- As reported to the Department of Transportation (DOT)
- Downloaded from an onboard data logger
- Internal company records
- Personal estimation
- Source unknown

If you cannot break out your data by truck class, the model provides options for estimating these values. For some data fields within the **By Truck Class** section, you will see a drop-down menu labeled Truck Class Allocation. Using this drop-down menu, identify how you are allocating your total annual data by truck class. For some data fields, there may be only one method.

Allocation options include:

- Direct Input (actual data you collect for each class)
- Class mpg
- Percent of fleet total
- Default
- Percent
- Tons
- Average cubic feet

The preferred option is by Direct Input, using data you track by class. However, if this data is unavailable to you, one of the alternative methods may help you estimate your class totals. If at all possible, please use the direct input method.

Definitions of Data Fields (For the following fields, you must input the Total Annual Amount, Data Source, Truck Class Allocation, and per class annual data):

Diesel Used: Input all diesel gallons used for the reporting year (including biodiesel)

Biodiesel Used: Input the actual gallons of biodiesel used for the reporting year. For example, if you use 1,000 gallons of B10, input 100 gallons. If you use 1,000 gallons of B2, input 20 gallons.

Total Miles Driven: Enter the total miles traveled by your fleet for any purpose for the reporting year. Fuel usage and mileage data will be used to determine the primary truck efficiency metric grams per mile. Shippers will be notified that in most cases “gram per mile” will be the preferred comparison metric for truck operations.

Revenue Miles Driven: Enter the total miles your fleet travelled that were charged to customers for the reporting year.

Empty Miles: Enter the total number of empty miles driven for the reporting year.

Miles per Gallon (estimated): MPG estimates are calculated for each truck class, based on the input values for miles and gallons, provided as a validation check for users.

Average Payload: Input your average payload per truck in tons (2,000 lbs.) for each truck class. Then average payload across all truck classes will be calculated and displayed under the Annual Amount column. If you do not have payload estimates available by truck class, you may select Default Numbers by Class from the drop-down menu, which will auto-populate the fields with average payload data based on the 2002 Vehicle Inventory and Use Survey (VIUS).

Average Capacity Volume: Input the average cubic carrying capacity per truck for each truck class. Clicking on the **blue link** will take you to an optional calculation worksheet that can be used for class 7, 8A, and 8B vehicles (non-flatbed). (For flatbeds, make your best estimate of capacity volume). By entering the trailer size information, the sheet will generate an average volume number for the specified truck class. You can estimate based on number of truckloads or by percent usage. Once complete for all truck classes selected, average capacity volume across all truck classes will be calculated and displayed under the Annual Amount column.

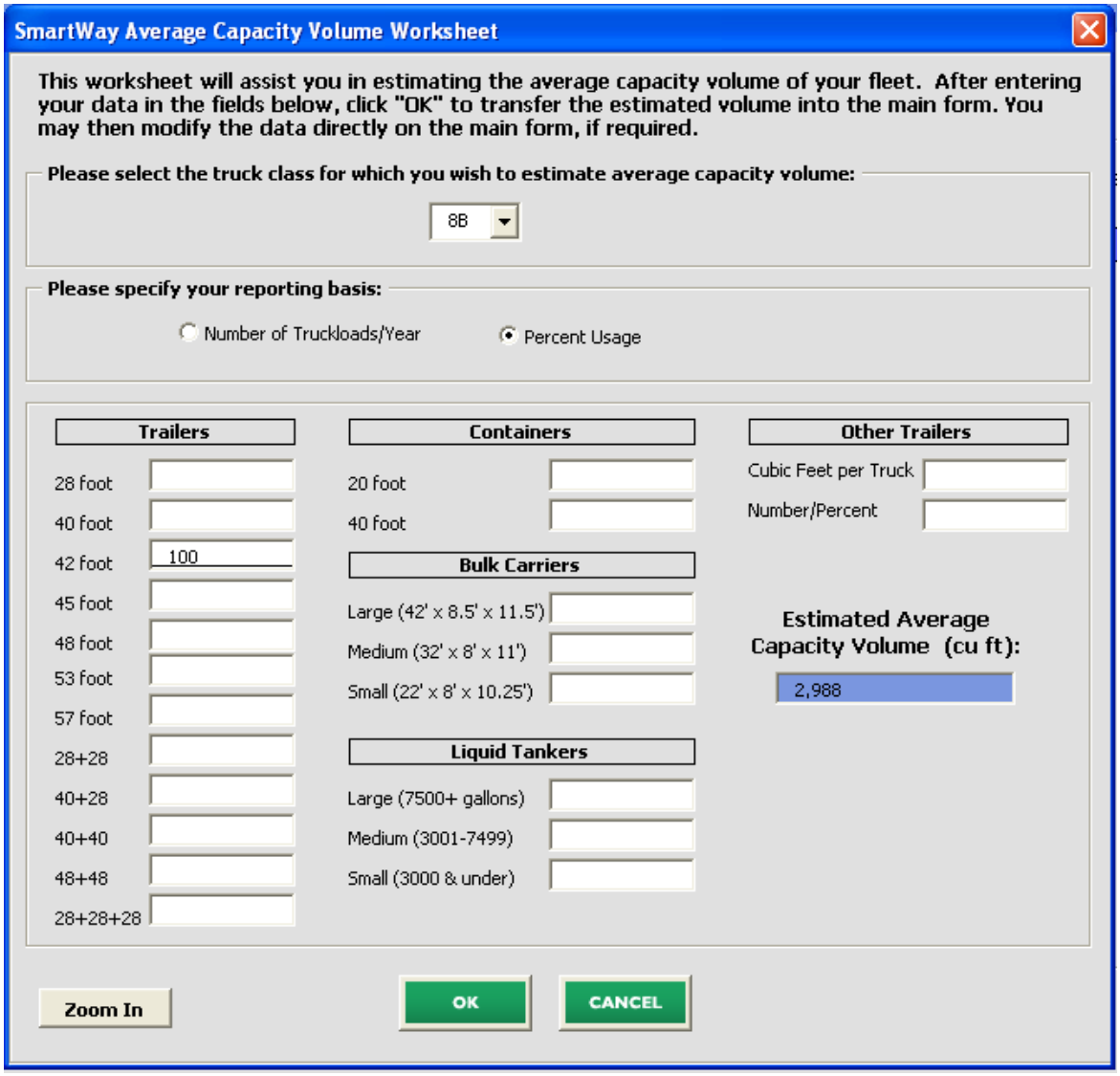


Figure 20. Average Capacity Volume Worksheet

% Cube Utilization: Input your cube utilization percentage by truck class. For flatbed trailers, make your best estimate based on the percent of total surface area utilized. Then the average % utilization across all truck classes will be calculated and displayed under the Annual Amount column.

% Urban Drive Cycle: Input your best estimate for the percentage of total miles spent driving in urban conditions (e.g., with frequent starts and stops on local and/or arterial roads, as opposed to predominantly highway operation).

Average Speed (Urban): Choose the category that best defines your fleet's urban driving patterns. You may choose "Above 30 mph" or "Less than 30 mph."

Average Speed (Highway): Choose between the average speed bands. The speeds choices are in 10 mph bands from <20 to 60+.

Average Idle Hours Per Truck: Input the average hours per year that your trucks idle. This value should be expressed in “hours per year per truck”.

You can click **validate your model** to make sure you have filled out everything properly on this tab. However, note that you will receive additional validation errors unless you have completed data entry for all screens.

After completion, if you are using PM reduction equipment click on the PM Reduction Sub-tab at the top to proceed to the next section (3.3.2.c). If you have finished inputting data for all of your fuel types, click the **HOME** button to return to the **Home** Screen and proceed to Section 3.4 (Page 34) of this guide.

An **ADD/VIEW COMMENTS** button and a **HELP** button are located at the bottom of the screen if needed.

Remember! You must complete the Model Year & Class and Activity Information sub-tabs for each of the fuel types you operate. Do NOT move on to Section 3.4 if you have not completed the data input for each of your fuel types!

3.3.2.c. Diesel Vehicles Tab: PM Reduction Sub-Tab

The PM Reduction sub-tab is for fleets that have installed retrofit equipment on pre-2007 engines. Click the button to identify the type of device, and then enter the number of trucks (including total values) equipped with the device. To input data for multiple devices, click a new device after completing input for the initial device, and fill out the new blank fields that appear.

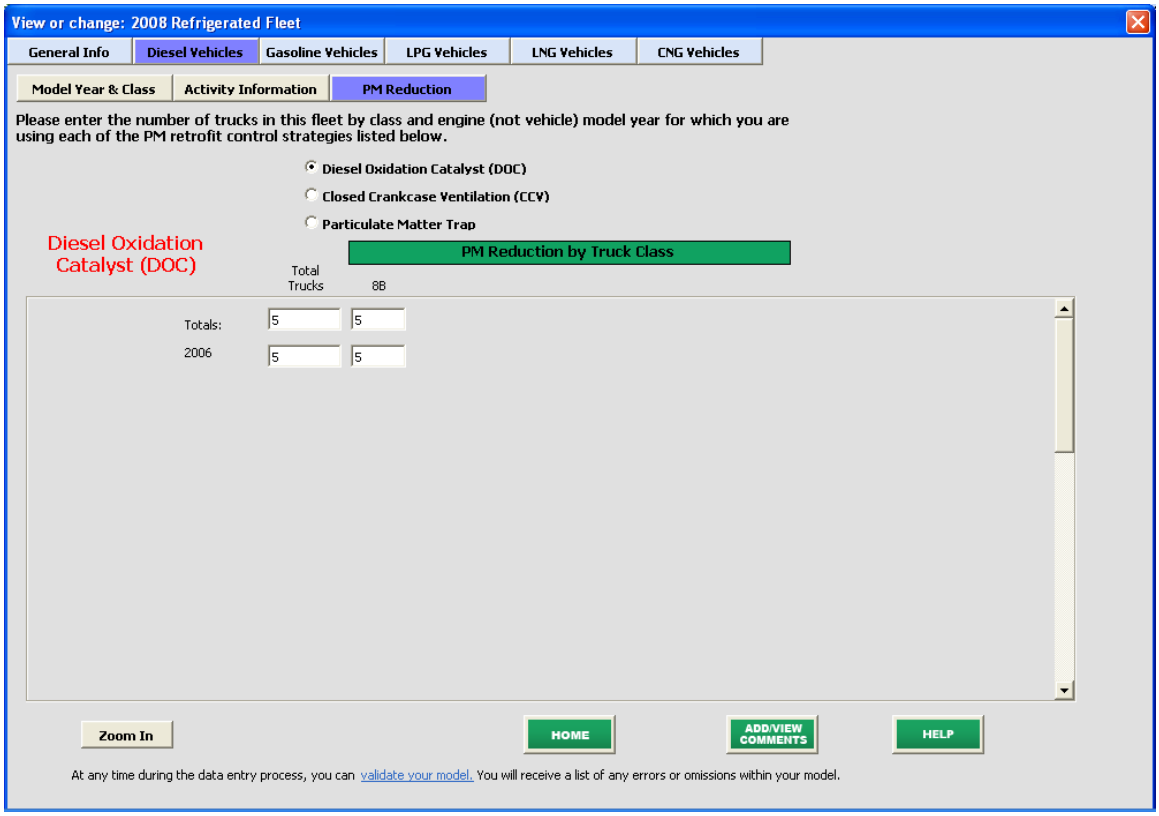


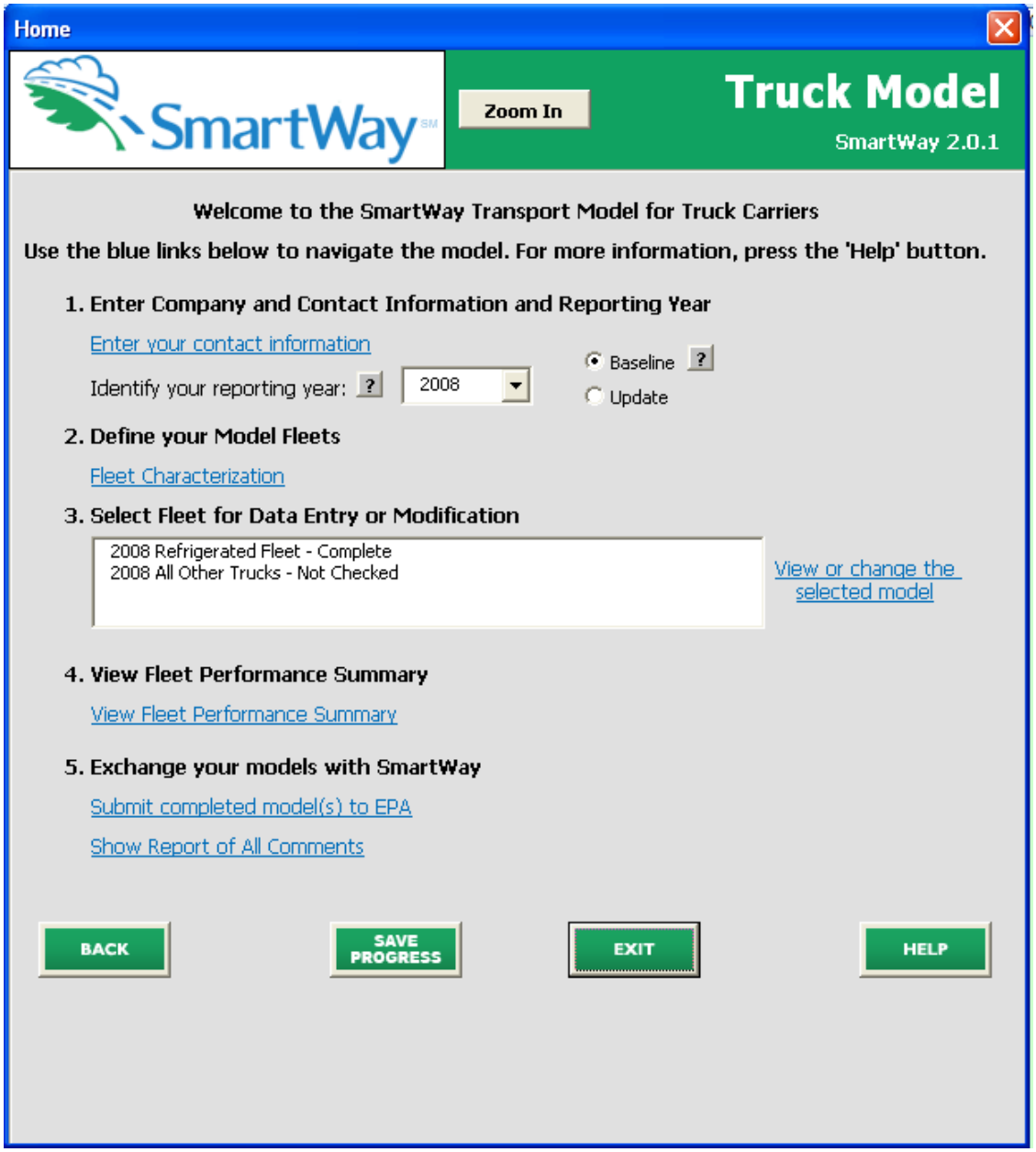
Figure 21. Data Entry Screen - Diesel Vehicles Tab / Particulate Matter Reduction Sub-tab

You can click on **validate your model** to make sure you have filled out everything properly on this tab. However, note that you will receive additional validation errors unless you have completed data entry for all screens.

An **ADD/VIEW COMMENTS** button and a **HELP** button are located at the bottom of the screen if needed. Click the **HOME** button to return to the **Home** Screen.

3.4. View Fleet Performance Summary

You have now returned to the **Home** Screen. Notice that the model that you filled out and validated now identifies its status as "– Complete." You may now highlight the next model if you have another one to complete. In this example, the "2008 expedited division" model remains to be finished. Fill out unfinished models in the same manner as the previous model. Once each model is completed and appears as "- Complete" in the status box, you may proceed to the next step.


Home
SmartWay
Zoom In
Truck Model
SmartWay 2.0.1
Welcome to the SmartWay Transport Model for Truck Carriers
Use the blue links below to navigate the model. For more information, press the 'Help' button.
1. Enter Company and Contact Information and Reporting Year
Enter your contact information
Identify your reporting year:
2008
Baseline
Update
2. Define your Model Fleets
Fleet Characterization
3. Select Fleet for Data Entry or Modification
2008 Refrigerated Fleet - Complete
2008 All Other Trucks - Not Checked
View or change the selected model
4. View Fleet Performance Summary
View Fleet Performance Summary
5. Exchange your models with SmartWay
Submit completed model(s) to EPA
Show Report of All Comments
BACK
SAVE PROGRESS
EXIT
HELP

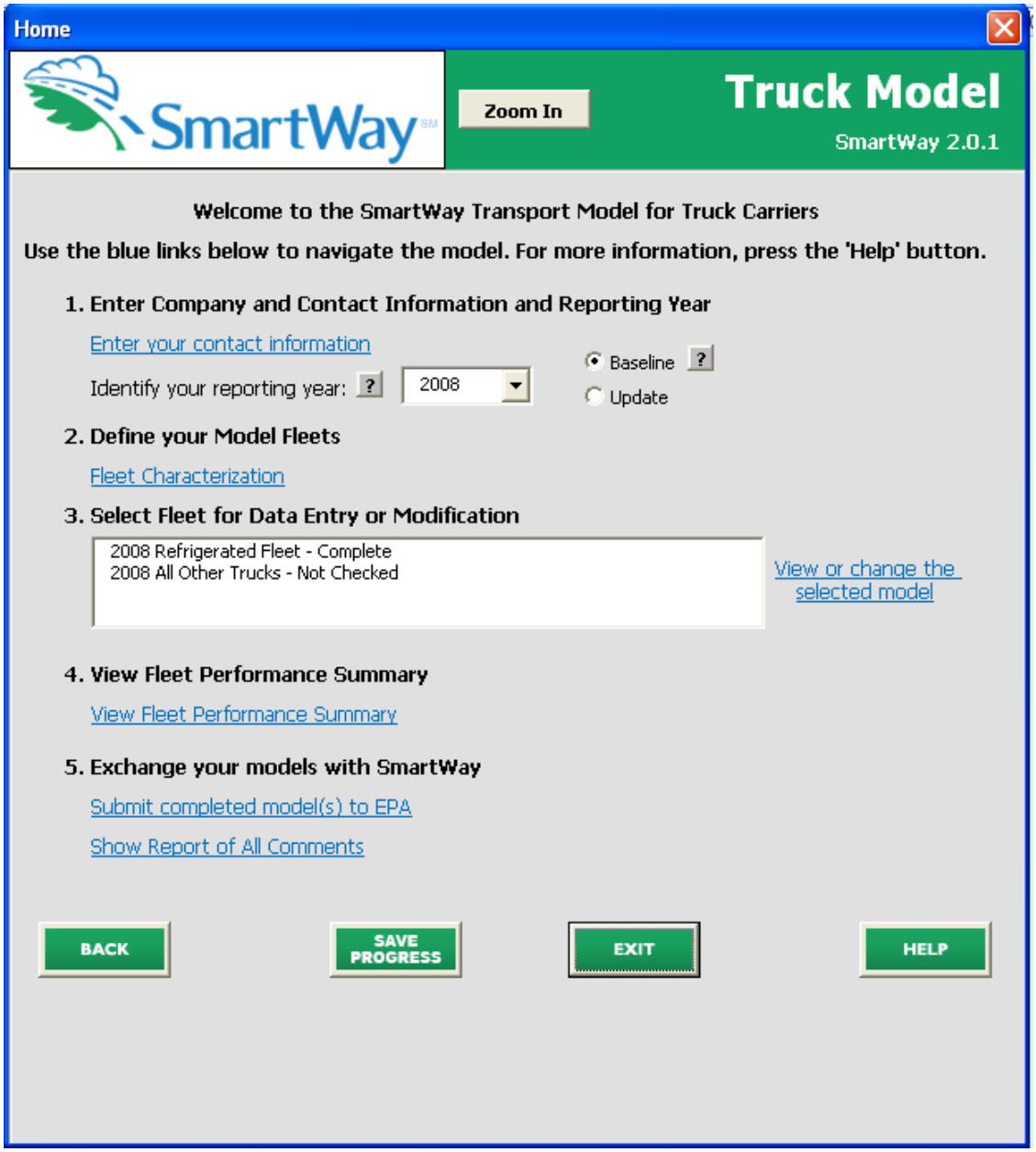


Figure 22. Home Screen - after completing the Data Entry/Modification process for first model

Once you have filled out information for all your fleets, be sure that all models show "-Complete" beside the model name. If and only if all models are marked as "Complete," you can move on to the next step. If one or more models are not marked as "Complete", review the data you entered for errors or omissions.

Once you are ready to continue, click **View Fleet Performance Summary**.

The following screen will appear after clicking **View Fleet Performance Summary** on the **Home** Screen.

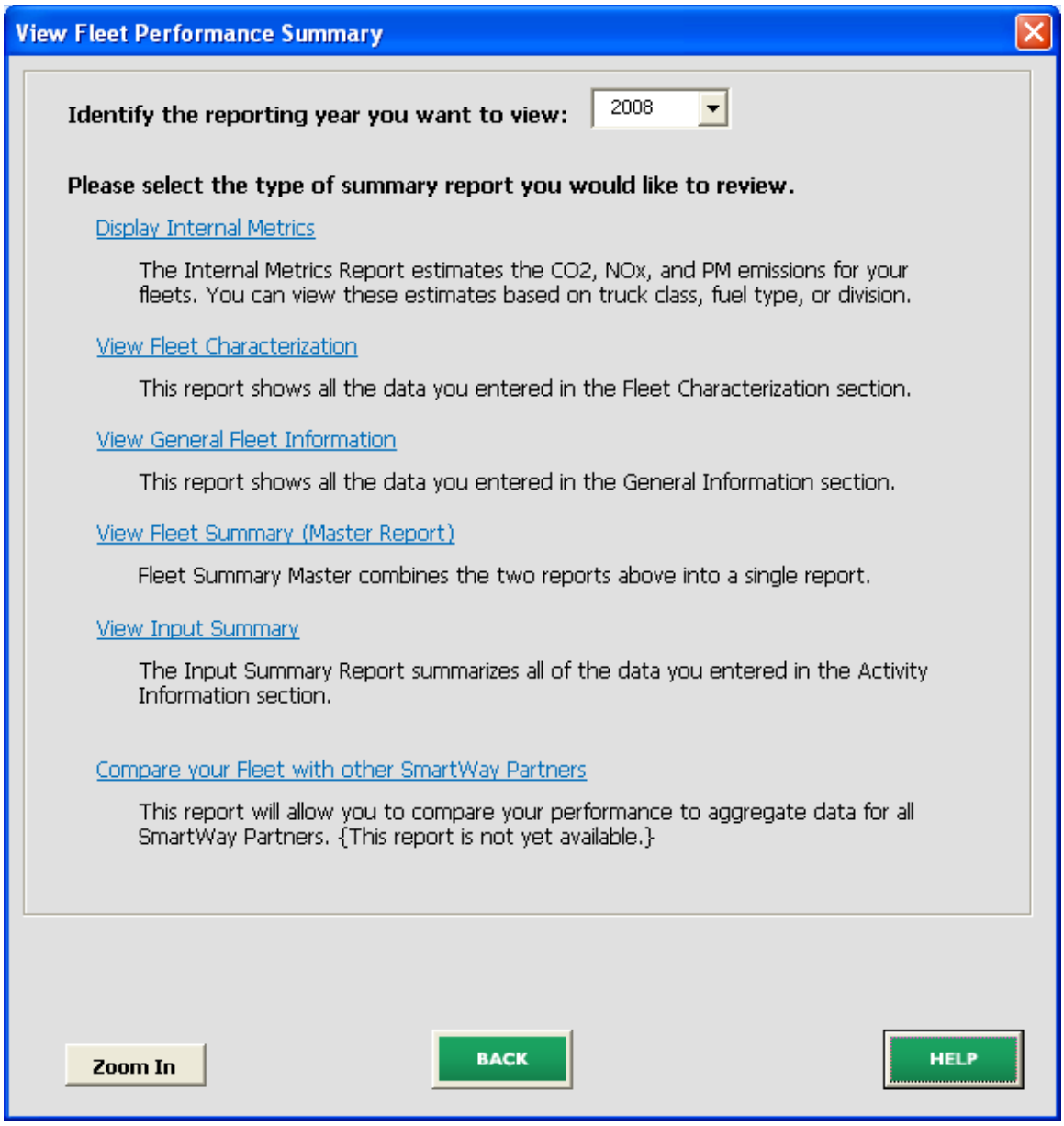


Figure 23. View Fleet Performance Summary Screen

Clicking any of the **blue links** will display the indicated data (except **Compare your Fleet with other SmartWay Partners**, which is not functional yet). If you click **Display Internal Metrics** you will be asked to specify the level of detail/aggregation you wish to display, and the performance metrics of interest. You will also have the option to graph your data, as shown in **Figure 24**.

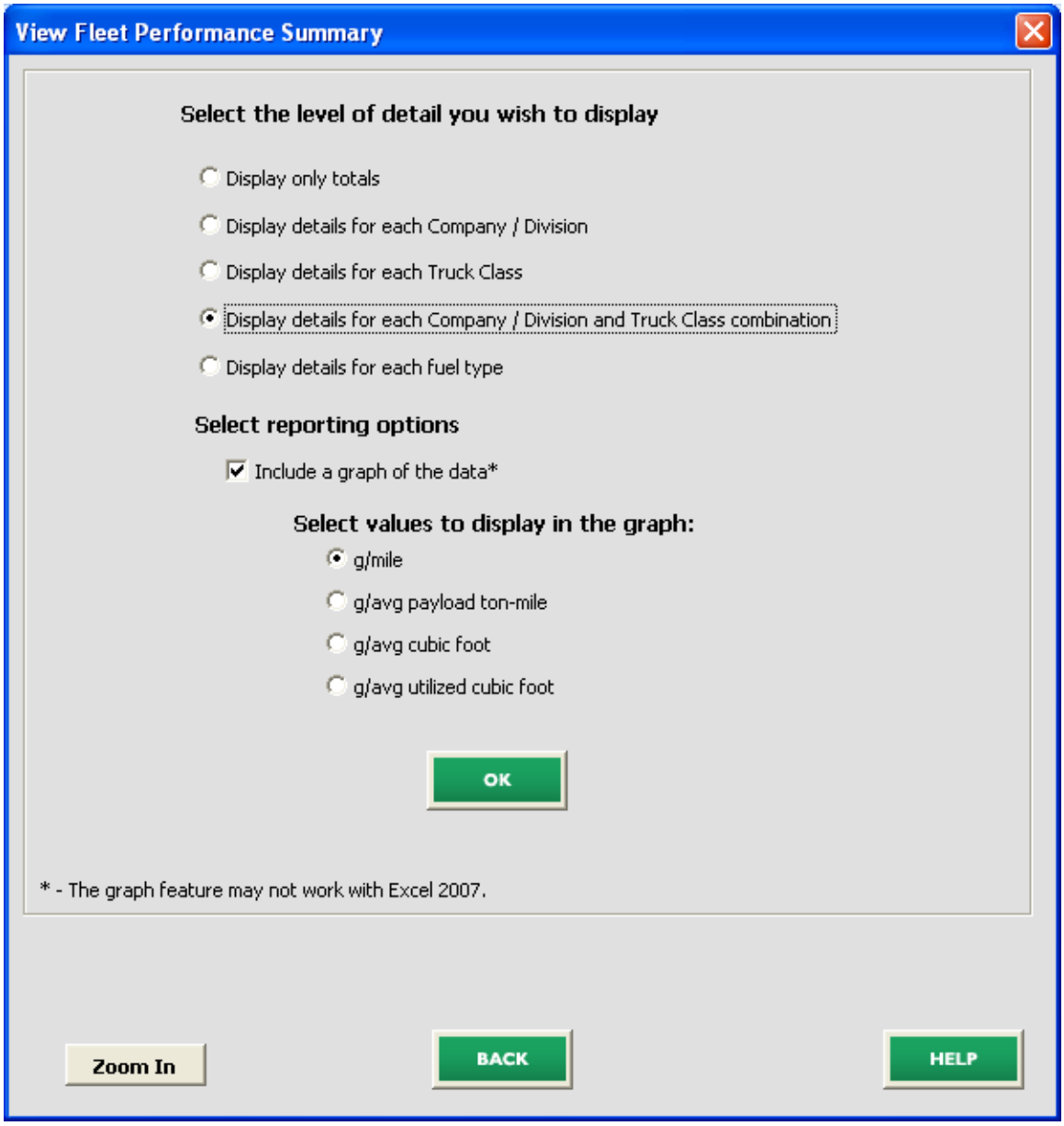


Figure 24. View Fleet Performance Summary – Report Detail Selection

Clicking on any of the summary report types will take you to a screen allowing you to preview and print your reports. **Figure 25** shows one of many sample reports that the model can generate for you. These reports will prove useful for your company's diagnostic and improvement efforts.

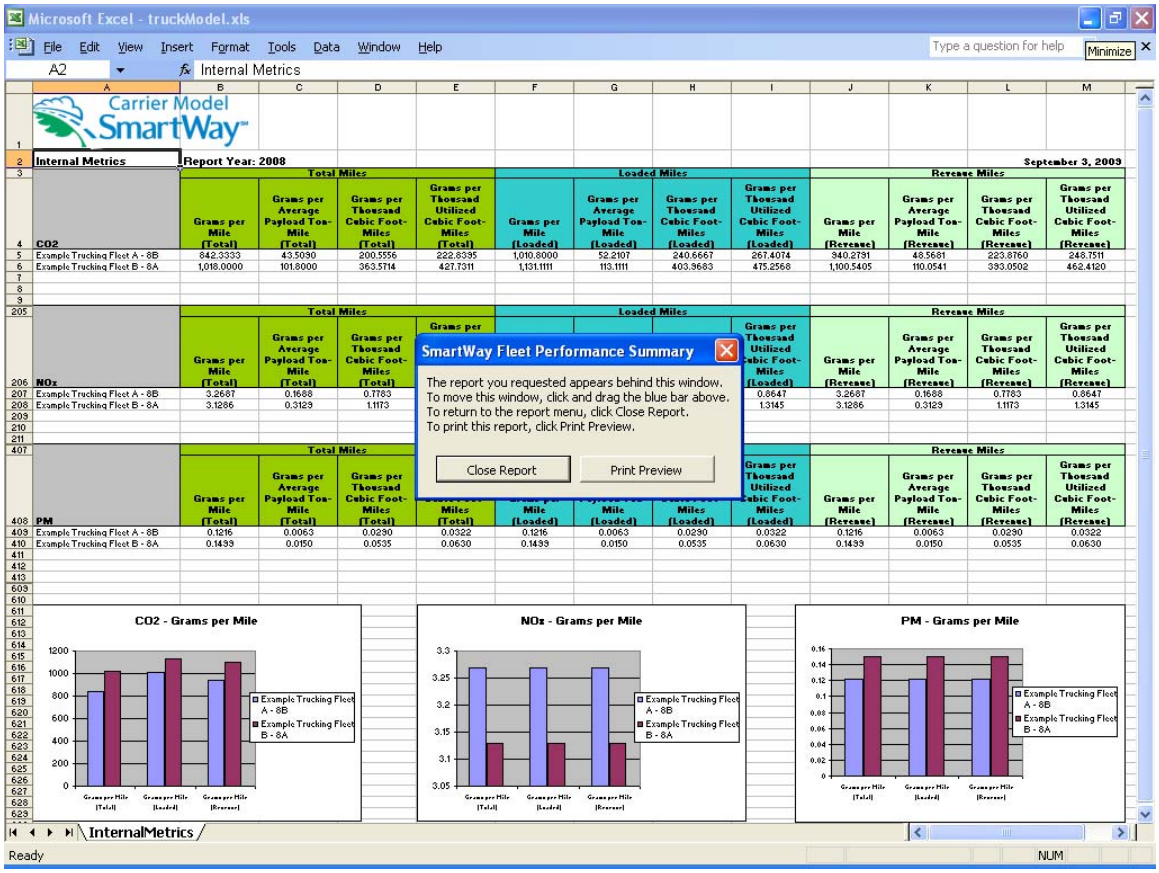


Figure 25. Example of Completed Report

3.5. Exchanging your models with SmartWay

Congratulations! You are now ready to send your models to EPA.

Click the **Submit completed models to EPA** link, which will create a file with the following naming convention:

CompanyName_**Type**_**Year**_Truck_2.0.V0.xls

where **CompanyName** is the first 14 characters of your company's name, **Type** indicates whether you are submitting baseline or updated models, and **Year** indicates the year for which you are submitting your data.

The system will display a message indicating the name and location of the newly created file. You will need to locate the file and attach it in an e-mail to your Partner Account Manager (PAM).

NOTE: DO NOT ZIP the File. Send it to EPA as a normal file attached in an e-mail. EPA security will not allow zipped files through the EPA firewall.

If you have any comments on the model and/or User Guide, please submit these with your model in a separate document.

4. Troubleshooting

Although the SmartWay 2.0 models have been tested extensively, you may encounter errors. Intermittent errors have been encountered when opening 2.0 directly from an email rather than from a drive, or when multiple Excel files are open simultaneously. If you encounter an error during use of the model, please try restarting the model directly from a disk drive, with all other Excel files closed. In addition, make sure that your computer is using a system and application version validated for use with the FLEET2.0 models (XP and Vista operating systems, and Excel Office 2003 and 2007.)

If you continue to encounter problems, please make a screen capture of the error message, and save the model at that point. (You can make a screen capture by pressing Alt-Prt Scr, and then pasting the image into a document such as MS Word.) Then send the screenshot, along with the saved model to your Partner Account Manager for further assistance.